S. Hrg. 100-230, Pt. 3

NUCLEAR WASTE PROGRAM

HEARINGS

BEFORE THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON

S. 839

TO AUTHORIZE THE SECRETARY OF ENERGY TO ENTER INTO INCENTIVE AGREEMENTS WITH CERTAIN STATES AND AFFECTED INDIAN TRIBES CONCERNING THE STORAGE AND DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTE AND SPENT NUCLEAR FUEL, AND FOR OTHER PURPOSES

APRIL 29 AND MAY 7, 1987

PART 3

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NUCLEAR WASTE PROGRAM

WEDNESDAY, APRIL 29, 1987

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:05 a.m. in room SD-366, Dirksen Senate Office Building, Hon. J. Bennett Johnston, chairman, presiding.

OPENING STATEMENT OF HON. J. BENNETT JOHNSTON, A U.S. SENATOR FROM THE STATE OF LOUISIANA

The CHAIRMAN. Good morning.

This morning the full committee is continuing its oversight of the Department of Energy's civilian nuclear waste program. At this morning's session we will hear from State and local officials and Indian representatives on S. 839, the Nuclear Waste Policy Act Amendments of 1987.

This bill, which I introduced along with my colleague and ranking minority Member, Senator McClure, would offer a benefits package to affected States or Indian tribes hosting a repository or monitored retrievable storage facility.

Yesterday we heard from technical experts on the health and safety issues involved in the Department's repository program. We learned from those witnesses that the Department has done adequate technical preparation for site characterization at the three candidate repository sites in Washington, Nevada, and Texas.

According to these witnesses, which included the Nuclear Regulatory Commission and the National Academy of Sciences, there is no technical reason not to go ahead.

Having established yesterday the judgment of independent technical experts that site characterization should go forward, I hope that today we can get at the root of any of the remaining objections of the States.

If there are remaining technical objections, the States will have to be more specific. If the remaining objections are political in nature we need to focus on them and address them. If there are problems with the Nuclear Waste Policy Act, we need to fix them. If the Act is sound and the technical work is sound, we must get on with the process.

S. 839, the bill Senator McClure and I have introduced, would add a new Title IV of the Nuclear Waste Policy Act to set up an alternative procedure for carrying out the requirements of the Act. Under this procedure an affected State or Indian tribe could receive substantial benefits for agreeing to have a repository or MRS sited within its borders.

In exchange for these benefits, the State or Indian tribe would agree to work with the Department of Energy toward developing a repository or a monitored retrievable storage facility, and would agree to help expedite that process. A State or Indian tribe could receive benefits of $100 million per year in exchange for its siting a repository and $50 million a year in exchange for its help in siting an MRS.

I believe there are already certain benefits that would be available to a State and local community hosting a repository or MRS under the existing Act such as thousands of jobs. In addition to providing jobs, there would be capital improvements such as highway and rail upgrades and improved fire, hospital, and emergency response services. Additional benefits would be available through the growth of spinoff industries such as robotics and state-of-the-art waste management.

S. 839 would offer additional benefits. I think a State or Indian tribe that enters into an incentive agreement with the Department under this procedure would have much to gain, but if no State or Indian tribe chose to follow this procedure all of the existing provisions of the Nuclear Waste Policy Act would continue in effect. Nothing about the process would change. The siting of a repository under the existing Act would continue with or without this legislation.

We have an extensive witness list this morning. We want to hear from the States, the local communities, and the Indian tribes. We will start with a panel of State witnesses. But before I say that, let me just say a couple of things.

This bill, S. 839, has been criticized, and I understand very well the politics of nuclear waste. They were thinking about including Louisiana for a while, and my people did not like it, so I understand the politics of this very well. I have a lot of sympathy with it. But please keep in mind just a couple of things.

First of all, the experts are virtually unanimous in saying there is no harm from either an MRS or a nuclear repository. I mean, that is just the fact of the matter. The National Academy of Sciences and the NRC said it yesterday. That does not mean we should not be very, very careful. That does not mean we should not gold plate it, and believe me, we will. Believe me, we will.

But if you do not believe that, if you think there is some remaining danger from a nuclear repository or an MRS, and even if you are convinced you may not say so because you have to go back home and deal with your constituents, but even if you do not believe that, let me tell you something that is a fact.

That is, that we have got over 100 nuclear plants in this country that generate waste every year. It has got to be put somewhere, and we cannot say we are not going to put it away somewhere. That option is simply not open to us.

Third, we have a Nuclear Waste Policy Act. And that is the law of the land. We can make it better. S. 839 makes that a lot better. If you think somehow you can avoid all together having one of these three repository sites, maybe so. But in order to do that you have got to show something more than political objection—because as sympathetic as we are to the political objection, all the other 47 States in the case of a repository, and all the other 49 States in the case of an MRS, while they may believe every word I am saying about no danger, they do not particularly want it in their States.

So what I am saying is, what we ought to do and what we are going to try to do in this Committee is work with you cooperatively. If we think there is no danger from an MRS and from a repository, that does not mean we are not going to deal with the fears and the emotions of people, because fears and emotions are real, and they constitute a fact of life with which we deal and for which we are not only willing to pay in terms of recompense but willing to gold plate in terms of redundancies of safety.

So I hope you will regard S. 839 and the attitude of this Committee as being not only friendly, but being sympathetic and being willing to go along with anything that is reasonable to solve a problem which the Nation must solve. The Nation has no option but to solve this problem in the best way we can, and that is what this hearing is about today.

Now before I introduce our first distinguished panel of witnesses, I would like to call on my distinguished colleague from Nevada, Senator Hecht, for any comments he might wish to make.

[The text of S. 839 follows:]

100TH CONGRESS
1ST SESSION

S. 839

To authorize the Secretary of Energy to enter into incentive agreements with certain States and affected Indian tribes concerning the storage and disposal of high-level radioactive waste and spent nuclear fuel, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 25 (legislative day, MARCH 24), 1987

Mr. JOHNSTON (for himself and Mr. MCCLURE) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To authorize the Secretary of Energy to enter into incentive agreements with certain States and affected Indian tribes concerning the storage and disposal of high-level radioactive waste and spent nuclear fuel, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be referred to as the "Nuclear Waste Policy Act Amendments Act of 1987".

SEC. 2. The Nuclear Waste Policy Act of 1982 is amended at the end by adding a new title IV to read as follows:

"TITLE IV—INCENTIVE AGREEMENTS

"AUTHORITY TO ENTER INTO INCENTIVE AGREEMENTS

"SEC. 401. (a)(1) Subject to the provisions of section 402 of this Act, the Secretary may enter into an incentive agreement with a State or an affected Indian tribe concerning a repository or a monitored retrievable storage facility for the acceptance of high-level radioactive waste or spent nuclear fuel in that State or on the reservation of that tribe, as appropriate. The State or affected Indian tribe may enter into such an agreement only if the State Attorney General or the chief legal officer of the Indian tribe, as appropriate, certifies that the laws of the State or Indian tribe provide adequate authority for that entity to enter into the incentive agreement.

"(2) Benefits and payments under this title may be made available only in accordance with an incentive agreement under this section.

"(b) An agreement entered into under subsection (a) may be amended only by the mutual consent of the parties to the agreement and terminated only pursuant to section 406.

"(c) Except as provided in subsection (e), the Secretary shall seek to enter into negotiations for an incentive agreement with the Governor of the States containing a site selected for characterization as a candidate site for a first repository.

"(d) Except as provided in subsection (e), the Secretary may begin negotiations with the Governor of a State, or the governing body of any affected Indian tribe in a State, for an incentive agreement relating to a monitored retrievable storage facility if the State or reservation contains a site that the Secretary determines to be suitable under this Act for such a facility.

"(e) For 12 months following the date of enactment of this title any State or affected Indian tribe may seek to enter into an incentive agreement with the Secretary if such State or tribe demonstrates to the satisfaction of the Secretary that the State or tribe has a site suitable for characterization for a repository or for the construction of a monitored retrievable storage facility.

"(f) Only one incentive agreement for a repository and one incentive agreement for a monitoring retrievable storage facility may be in effect at any one time.

"(g) Determinations made by the Secretary under this title are not subject to judicial review, including but not limited to the determination by the Secretary to enter or not enter into an incentive agreement.

"CONTENT

"SEC. 402. (a)(1) In addition to the benefits the State or affected Indian tribe is entitled to under titles I and III of this Act, in order to further defray potential expenses that may be incurred by the State or affected Indian tribe that is a party to an incentive agreement under section 401(a), the Secretary shall make payments to such State or tribe in accordance with the following schedule:

"BENEFITS SCHEDULE

(amounts in $ millions)

Event	MRS	Repository
Upon execution of the incentive agreement:	50	100
Annual payments prior to first spent fuel receipt:	20	50
Upon first spent fuel receipt:	50	100
Annual payments after first spent fuel receipt until closure of the facility:	50	100

"For purposes of this schedule, "MRS" means a monitored retrievable storage facility and "spent fuel" means high-level radioactive waste or spent nuclear fuel.

"(2) Annual payments prior to first spent fuel receipt under this section shall be made on the anniversary date of execution of the incentive agreement. Annual payments after first spent fuel receipt until closure of the facility will be made on the anniversary date of first spent fuel receipt.

"(3) If the first spent fuel payment under this section is made within 6 months after the last annual payment prior to receipt of spent fuel, the first spent fuel payment shall be reduced by an amount equal to one-twelfth of such annual payment for each full month less than 6 that has not elapsed since the last annual payment.

"(4) Except as provided in this section, the Secretary may not restrict the purposes for which the payments under this section may be used.

"(5) Any State receiving payments under this section shall transfer not less than one-third of such payment to units of general local government affected by the repository or monitored retrievable storage facility. A plan for this transfer shall be included in the incentive agreement under section 401(a) covering such payments.

"(b) An incentive agreement under section 401(a) shall provide that—

"(1) the parties and beneficiaries of the agreement, to the maximum extent practicable, shall take steps to expedite characterization of the site, construction of the facility, preparation of necessary documents, and the like;

"(2) a Review Panel be established under section 403 of this Act;

"(3) the State or affected Indian tribe waive its rights established under this Act to seek judicial review of issues covered by the agreement;

"(4) the State or affected Indian tribe waive its rights to disapprove a recommendation of its site for application for a facility construction authorization;

"(5) in the event that a State or affected Indian tribe defaults under the agreement, that such State or tribe repay to the Secretary, for deposit into the Nuclear Waste Fund, all payments it received under the agreement, plus interest. The Secretary of the Treasury shall determine the rate of interest;

"(6) the parties to the agreement shall share with one another information relevant to the licensing process for the repository or monitored retrievable storage facility, as it becomes available; and

"(7) the State or affected Indian tribe participate in the design of the repository or monitored retrievable storage facility and in the preparation of documents required under law or regulation governing the effects of the facility on the public health and safety.

"(c) The Secretary shall make payments to the States or affected Indian tribes under this section from the Nuclear Waste Fund established by section 302(c) of this Act. The signature of the Secretary on a valid incentive agreement under section 401(a) shall constitute a commitment by the United States to make payments in accordance with such agreement.

"REVIEW PANEL

"SEC. 403. (a) The Review Panel required to be established by section 402(b)(2) of this Act shall consist of a Chairman selected by the Secretary in consultation with the Governor of the State or governing body of the affected Indian tribe, as appropriate, and 6 other members as follows:

"(1) two members selected by the Governor of the State or governing body of the affected Indian tribe;

"(2) two members selected by units of general local government affected by the repository or monitored retrievable storage facility;

"(3) one member to represent persons making payments into the Nuclear Waste Fund, to be selected by the Secretary; and

"(4) one member to represent other public interests, to be selected by the Secretary.

"(b)(1) The members of the Review Panel shall serve for terms of 4 years each and, other than full-time employees of the Federal Government, shall receive a per diem compensation for each day spent in meetings or conferences, or other work of the Review Panel, including their necessary travel or other expenses while engaged in the work of the Review Panel.

"(2) Expenses of the Review Panel shall be paid by the Secretary from the Nuclear Waste Fund.

"(c) The duties of the Review Panel are to—

"(1) advise the Secretary on matters relating to the proposed repository or monitored retrievable storage facility, including issues relating to design, construction, operation, and decommissioning of the facility;

"(2) evaluate performance, as it considers appropriate;

"(3) recommend corrective actions to the Secretary;

"(4) assist in the presentation of State or affected Indian tribe and local perspectives to the Secretary; and

"(5) participate in the planning for and the review of preoperational data on environmental, demographic, and socioeconomic conditions of the site and the local community.

"(d) The Secretary shall make available promptly any information in the Secretary's possession requested by the Panel or its Chairman.

"(e) The requirements of the Federal Advisory Committee Act do not apply to a Review Panel established under this title.

"ACTION ON REPOSITORY

"SEC. 404. (a) Effective on the date of execution of an incentive agreement with respect to a repository under this title, the parties to the incentive agreement, after consulting with the Review Panel, shall take all those actions required or contemplated under this Act to assure that a repository is constructed and in operation, at the earliest practicable date, at the site designated in the incentive agreement. As long as an incentive agreement with respect to a repository under this title is in effect, the Secretary shall suspend work at other sites selected for characterization as candidate sites for a first repository.

"ACTION ON MRS

"SEC. 405. (a) The Secretary shall construct and operate a monitored retrievable storage facility, as an integral part of the civilian nuclear waste management system.

"(b) Effective on the date of execution of an incentive agreement with respect to an MRS under this title, the parties to the incentive agreement, after consulting with the Review Panel, shall take all those actions required or contemplated under this Act to assure that an MRS is constructed and in operation, at the earliest practicable date, at the site designated in the incentive agreement.

"(c) While incentive agreements under this title with respect to a monitored retrievable storage facility and a first repository are in effect—

"(1) the Secretary and the Commission shall not be subject to the requirements of title I with respect to a second repository;

"(2) the Secretary is required to report to Congress on or after January 1, 2001, but not later than January 1, 2004, on the need for a second repository; and

"(3) the Commission shall not be subject to the requirements of section 114(d) with respect to the emplacement in the first repository of a quantity of spent fuel containing an excess of 70,000 metric tons of heavy metal or a quantity of solidified high-level radioactive waste resulting from the reprocessing of such a quantity of spent fuel.

"TERMINATION

"SEC. 406. (a) The Secretary may terminate an incentive agreement under this title if (i) the site under consideration is disqualified for its failure to comply with guidelines and technical requirements established by the Secretary in accordance with this Act, (ii) the Secretary determines that the Commission cannot license the facility within a reasonable time, (iii) the State or affected Indian tribe fails to adhere to the agreement in a manner the Secretary finds to be a substantial breach of the agreement, (iv) the Secretary determines the State or affected Indian tribe to be dilatory in executing its responsibilities under the agreement, or (v) the State or affected Indian tribe defaults under the agreement.

"(b) The State or affected Indian tribe may terminate an incentive agreement under this title only if the Secretary disqualifies the site under consideration for its failure to comply with technical requirements established by the Secretary in accordance with this Act or the Secretary determines that the Commission cannot license the facility within a reasonable time.

"(c) If an inventive agreement is terminated under this section, the Secretary may, for a period of 12 months after the date of termination, negotiate a new incentive agreement under this title or proceed under the procedures of titles I and III of this Act to develop repositories or monitored retrievable storage facilities as appropriate.

"(d) If a new agreement has not been negotiated within 12 months after termination of the previous agreement, the Secretary shall proceed under the procedures of titles I and III of this Act to develop repositories or monitored retrievable storage facilities as appropriate.

"MISCELLANEOUS PROVISIONS

"SEC. 407. (a) This title does not affect the provisions of titles I and III of this Act except to establish an alternative procedure for the development of repositories and monitored retrievable storage facilities.

"(b) The powers and duties of the Secretary under this Act are not affected by this title except as expressly stated in the title.

"(c) In implementing the authorities contained in this title, the National Environmental Policy Act of 1969 shall not apply.

"(d) The Commission shall not consider any changes in the scheduled for opening a repository or monitored retrievable storage facility resulting from the implementation of this title in any processing involving a civilian nuclear power reactor.".

SEC. 3. The Table of Contents of the Nuclear Waste Policy Act of 1982 is amended by adding the following at the end:

"TITLE IV—INCENTIVE AGREEMENTS

"Sec. 401. Authority to enter into incentive agreements.
"Sec. 402. Content.
"Sec. 403. Review panel.
"Sec. 404. Action on repository.
"Sec. 405. Action on MRS.
"Sec. 406. Termination.
"Sec. 407. Miscellanous provisions.".

○

STATEMENT OF HON. CHIC HECHT, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator HECHT. Thank you very much, Senator.

First of all, I have no intention of criticizing you. I can only compliment you on the way you are looking at this whole nuclear issue. I compliment you on the fact that two weeks ago you got together a group of six Senators and we went off to Europe.

We were in Sweden. We were in France. And Senator, when we took that trip, we left the world of theory, because here in this country we have been talking the last few years about theory. We left the theoretical talk about what is going to be, and what is not going to be, and we entered the world of reality. We were able to kick the tires. We do not have to reinvent the wheel. We found out that the wheel works very well. The nuclear cycle wheel works very well.

In your prepared statements this morning, two points I want to point out to you. When you said political in nature, there is a lot of politics in this, and I think we have to address the situation of reprocessing: why we handle military waste one way and civilian waste another way. I brought that up yesterday, and the witnesses agreed. It would be much better to handle all our wastes in the same way.

Secondly, you said that the Act is sound and the technical work is sound. I do not think it is sound to dispose of the spent fuel after only 10 years of storage in pools or in an MRS. If that is sound, then the Swedes are wrong and the French are wrong.

I think it is more realistic to say, let us hold that in MRS facilities for 30, 40, and perhaps 50 years, or maybe 60 years, and allow the radiation to decay to much lower levels. You lose most of the radiation and you have seen the curve, that first 50 years it goes down like that.

Certainly we could adopt the theories of France and Sweden where they have a holding area right there next to the plant. That would avoid all the problems of a central MRS facility which you brought out in your opening statement about capital improvements, highway and rail upgrades, improved fire, hospital, and emergency response services. We get rid of a lot of costs doing that. In Sweden and France, storage of fuel is in the same area where they have four nuclear power plants right together and they hold the spent fuel right there.

I think that we can come forth and restore credibility to the program, and that is what we have to do. Safety has got to be first, and again I compliment you on going over to France, because I feel if we follow some of the procedures that they have followed we will restore credibility to the program in the minds of the American people.

Thank you.

The CHAIRMAN. Thank you, Senator Hecht. I do wish that everybody in this room and everybody who is concerned about the problem could have seen what we saw in Sweden and in France. Literally in Sweden two Members of Parliament, one at Oskersham and the other at Forsmark, the two areas where they have created nuclear waste facilities, are both strongly in support of the program, glad to have the facilities in their cities, and indeed the Member of Parliament in Oskersham wants the permanent facility located in his area. You know, I do not know how we can get greater credibility to meet that, but it does exist in those areas.

Now another Senator who went with us on the trip and has been most helpful in this whole area and a real expert on the subject is Senator Evans from Washington.

STATEMENT OF HON. DANIEL J. EVANS, A U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator Evans. Thank you, Mr. Chairman.

I appreciate very much this series of hearings which you have scheduled. I think yesterday's hearings, for instance, brought forth much new information. I think there was a significant shift in attitudes we heard from those who represented various departments of the Administration, but I think most of all yesterday's testimony clearly, and I would emphasize, clearly supported the MRS concept as a first priority.

I think that, if anything, what we have learned in the last 5 years since the passage of the Nuclear Waste Policy Act is that experience elsewhere, as Senator Hecht has pointed out, shows that an MRS is the first down we need so badly, as I said yesterday, before we attempt the touchdown of a final deep repository.

I have a full opening statement, Mr. Chairman, that I would ask to be submitted into the record, but I would like to read one paragraph of it.

I said: I was fortunate to have traveled with several members of the committee to Sweden and France over the Easter recess to examine the way they are dealing with the nuclear waste question. I have come back more sure than ever that rather than a headlong rush toward the construction and operation of a deep geologic repository we should provide an interim solution to the nuclear waste issue through the development of the MRS technology. By moving ahead with the MRS in advance of the deep geologic repository we gain two advantages.

First, it gives Congress, the administration, States, utilities, and others additional time to resolve the technical questions involving a final disposal of the Nation's nuclear waste. Second, storing the spent fuel in an MRS for several years will allow much of the radioactivity and heat to decay away, easing significantly many of the technical constraints on final and permanent disposal.

Some will make the argument that we cannot postpone permanent disposal further, that this generation has a moral obligation to dispose of this waste in a repository. I believe this is a weak argument that indicates a striking lack of confidence in future generations.

First, we may be permanently endangering the environment of future generations by placing this waste deep underground, where it cannot be retrieved, without a high degree of certainty how it will behave over this 10,000-year period.

Second, we are probably doing future generations a disservice by throwing away the massive source of potentially valuable energy.

And third, does this generation not have an obligation to maintain an array of electrical production technologies for the future, including the nuclear option, so that our Nation is prepared for the day when we deplete our nonrenewable fossil energy resources?

Mr. Chairman, I believe the act that you and Senator McClure have introduced is a major step forward. I intend to introduce an act shortly that will further enhance, I believe, the MRS concept, and hope that we can work together toward a comprehensive renewal of the faith necessary in nuclear waste disposal that will enable us to succeed. Without that faith from the public, from our colleagues in Congress, from the people of the United States, I do not think we will succeed. But we have seen how success can occur in other countries.

I think we do not always have the best of technologies or in this case I think we had good technologies and they were just exported, borrowed, and built upon by other nations, and they have found a way to move more rapidly, and I think in the proper order in both cases with a successfully operating monitored retrievable storage in place now, and in both cases—in Sweden and France—an opportunity to further develop the technologies, the methods, and the decisions which will go into long-term deep geologic storage.

[The prepared statements of Senators Johnston, McClure, and Evans follow:]

STATEMENT OF SENATOR J. BENNETT JOHNSTON

CHAIRMAN, COMMITTEE ON ENERGY AND NATURAL RESOURCES

HEARING ON S. 839
APRIL 29, 1987

TODAY, THE FULL COMMITTEE IS CONTINUING ITS OVERSIGHT OF THE DEPARTMENT OF ENERGY'S CIVILIAN NUCLEAR WASTE PROGRAM. AT THIS MORNING'S SESSION, WE WILL HEAR FROM STATE AND LOCAL OFFICIALS AND INDIAN REPRESENTATIVES ON S. 839, THE NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987. THIS BILL, WHICH I INTRODUCED WITH MY COLLEAGUE SENATOR MCCLURE, WOULD OFFER A BENEFITS PACKAGE TO AFFECTED STATES OR INDIAN TRIBES HOSTING A REPOSITORY OR MONITORED RETRIEVABLE STORAGE FACILITY.

YESTERDAY, WE HEARD FROM TECHNICAL EXPERTS ON THE HEALTH AND SAFETY ISSUES INVOLVED IN THE DEPARTMENT'S REPOSITORY PROGRAM. WE LEARNED FROM THOSE WITNESSES THAT THE DEPARTMENT HAS DONE ADEQUATE TECHNICAL PREPARATION FOR SITE CHARACTERIZATION AT THE THREE CANDIDATE REPOSITORY SITES IN WASHINGTON, NEVADA, AND TEXAS. ACCORDING TO THESE WITNESSES, THERE IS NO TECHNICAL REASON NOT TO GO AHEAD WITH SITE CHARACTERIZATION AT THESE SITES.

HAVING ESTABLISHED YESTERDAY THE JUDGMENT OF INDEPENDENT TECHNICAL EXPERTS THAT SITE CHARACTERIZATION SHOULD GO FORWARD, I HOPE THAT TODAY WE CAN GET AT THE ROOT OF ANY OF THE REMAINING OBJECTIONS OF THE STATES. IF THERE ARE REMAINING TECHNICAL OBJECTIONS, THE STATES WILL HAVE TO BE MORE SPECIFIC. IF THE

REMAINING OBJECTIONS ARE POLITICAL IN NATURE, WE NEED TO FOCUS ON THEM AND ADDRESS THEM. IF THERE ARE PROBLEMS WITH THE NUCLEAR WASTE POLICY ACT, WE NEED TO FIX THEM. BUT IF THE ACT IS SOUND, AND THE TECHNICAL WORK IS SOUND, WE MUST GET ON WITH THE PROCESS.

S. 839, THE BILL SENATOR MCCLURE AND I HAVE INTRODUCED, WOULD ADD A NEW TITLE IV TO THE NUCLEAR WASTE POLICY ACT TO SET UP AN ALTERNATIVE PROCEDURE FOR CARRYING OUT THE REQUIREMENTS OF THE ACT. UNDER THIS PROCEDURE, AN AFFECTED STATE OR INDIAN TRIBE COULD RECEIVE SUBSTANTIAL BENEFITS FOR AGREEING TO HAVE A REPOSITORY OR MRS SITED WITHIN ITS BORDERS. IN EXCHANGE FOR THESE BENEFITS, THE STATE OR INDIAN TRIBE WOULD AGREE TO WORK WITH THE DEPARTMENT OF ENERGY TOWARD DEVELOPING A REPOSITORY OR MRS AND WOULD AGREE TO HELP EXPEDITE THAT PROCESS. A STATE OR INDIAN TRIBE COULD RECEIVE BENEFITS AS GREAT AS $100 MILLION A YEAR IN EXCHANGE FOR ITS HELP IN SITING A REPOSITORY AND $50 MILLION A YEAR IN EXCHANGE FOR ITS HELP IN SITING AN MRS.

I BELIEVE THERE ARE ALREADY CERTAIN BENEFITS THAT WOULD BE AVAILABLE TO A STATE OR LOCAL COMMUNITY HOSTING A REPOSITORY OR MRS UNDER THE EXISTING ACT. IN ADDITION TO PROVIDING JOBS, THERE WOULD BE CAPITAL IMPROVEMENTS, SUCH AS HIGHWAY AND RAIL UPGRADES, AND IMPROVED FIRE, HOSPITAL, AND EMERGENCY RESPONSE SERVICES. ADDITIONAL BENEFITS COULD BE AVAILABLE THROUGH THE GROWTH OF SPINOFF INDUSTRIES SUCH AS ROBOTICS AND STATE-OF-THE-ART WASTE MANAGEMENT.

S. 839 WOULD OFFER ADDITIONAL BENEFITS. I THINK A STATE OR INDIAN TRIBE THAT ENTERS INTO AN INCENTIVE AGREEMENT WITH THE DEPARTMENT UNDER THIS PROCEDURE WOULD HAVE MUCH TO GAIN.

BUT IF NO STATE OR INDIAN TRIBE CHOSE TO FOLLOW THIS PROCEDURE, ALL OF THE EXISTING PROVISIONS OF THE NUCLEAR WASTE POLICY ACT WOULD CONTINUE IN EFFECT. NOTHING ABOUT THE PROCESS WOULD CHANGE. THE SITING OF A REPOSITORY UNDER THE EXISTING ACT WILL CONTINUE WITH OR WITHOUT THIS LEGISLATION.

WE HAVE AN EXTENSIVE WITNESS LIST THIS MORNING. WE WANT TO HEAR FROM THE STATES, THE LOCAL COMMUNITIES, AND THE INDIAN TRIBES. WE'LL START WITH A PANEL OF STATE WITNESSES. WITH US TODAY ARE THE HONORABLE RICHARD BRYAN, THE GOVERNOR OF NEVADA; TERRY HUSSEMAN, REPRESENTING THE GOVERNOR OF WASHINGTON; AND STEVE FRISHMAN, REPRESENTING THE GOVERNOR OF TEXAS.

OPENING STATEMENT OF SENATOR JAMES A. McCLURE
APRIL 29, 1987 HEARING ON S. 839

Good morning. As cosponsor of the bill S. 839, along with the Chairman, I am anxious to hear from the witnesses at today's hearing concerning their reactions to the concepts embodied in S. 839.

I don't think there is a single person in this room who would disagree with the basic premise of our bill--that is, that the region of the country that is called upon to take our nation's spent fuel and high-level waste ought to be able to realize a net gain in the process. As I have stated before, any undertaking in a technically advanced society such as ours carries with it certain risks and certain benefits. Our nuclear waste disposal program has, to date, carried a stigma (whether real or perceived) of offering a net negative impact to the host community. Our "incentive package" bill goes a giant step towards tipping the balance to a more favorable prospect. We are open to ideas on how to further enhance our proposal.

But the bill goes even further than just offering incentives. It provides a mechanism to enhance interactions between DOE, the States, the affected Indian Tribes, and the local communities. Based on the comments I've read in the prepared testimony for this morning's hearing, this interaction is crucial to the achievement of public confidence in the site characterization and waste disposal activities.

The bill would also provide an opportunity for the program to realize major cost savings and conserve on personnel resources if

DOE IS ALLOWED TO CHARACTERIZE ONE SITE, AT A COST OF $1 BILLION, RATHER THAN CHARACTERIZING 3 SITES SIMULTANEOUSLY, AT THREE TIMES THE COST.

FINALLY, THE BILL PROVIDES CONGRESS WITH A VEHICLE TO EASE UNNECESSARILY RESTRICTIVE TIMEFRAMES EMBODIED IN THE ORIGINAL NUCLEAR WASTE POLICY ACT, AND RECOGNIZES AND AUTHORIZES THE MONITORED RETRIEVABLE STORAGE FACILITY AS AN INTEGRAL PART OF THE OVERALL WASTE DISPOSAL PROGRAM. THESE CHANGES TO THE ORIGINAL MANDATES OF THE 1982 ACT ARE CENTRAL TO THE ABILITY OF THE NATION TO CARRY OUT A SUCCESSFUL DISPOSAL PROGRAM IN LIGHT OF WHAT WE'VE LEARNED OVER THE LAST 5 YEARS.

I HOPE THAT THIS HEARING WILL NOT DIGRESS INTO A CRUCIFICTION OF DOE IN ITS IMPLEMENTATION OF THE PROGRAM, OR INTO A MUTINY FROM THE BASIC ELEMENTS OF THE ACT. RATHER, IT IS MY HOPE THAT THE WITNESSES PRESENT HERE TODAY WILL PROVIDE THE COMMITTEE WITH CONSTRUCTIVE INPUT ON HOW WE CAN REFINE THE PROPOSALS IN S. 839 SO THAT WE CAN MOVE FORWARD IN A PRODUCTIVE, RESPONSIBLE MANNER TOWARDS RESOLUTION OF THE NUCLEAR WASTE DISPOSAL ISSUES.

Senate Energy and Natural Resources Committee
Hearing on S. 839
The Nuclear Waste Policy Act Amendments of 1987

Statement of Senator Daniel J. Evans
April 29, 1987

I want to express my appreciation to the Chairman for scheduling this hearing on legislation which he and the Ranking Member, Senator McClure, introduced to improve the Nuclear Waste Policy Act of 1982 by establishing incentive payments for states which accept a deep geologic repository or a monitored retrievable storage facility.

Several members of the our Committee played a leadership role drafting the Nuclear Waste Policy Act (NWPA) of 1982. It was the product of long and difficult negotiations over an extraordinarily complex issue -- developing a safe, cost-effective and equitable solution to disposing of our nation's spent nuclear fuel and high level nuclear waste. Though I am not in complete agreement with the approach taken in the Act, I recognize that like most legislation which is passed by the Congress, it is a compromise, and represents a delicate balance of many interests. I can therefore readily understand the reluctance of many in Congress who were involved with the drafting of the NWPA to disturb this balance by re-opening the Act.

Yet for several months now, it has become increasingly apparent that the Department of Energy has failed to implement the law as Congress intended. The Department's unilateral decision to ignore the law when it announced last year that it was "indefinitely postponing" the second repository program mandated under the NWPA, has led to a fundamental break-down of the nation's nuclear waste program. The Department is facing a number of legal challenges to their decision in the 9th Circuit Court of Appeals and has clearly lost the confidence of the affected states and Indian tribes. I am convinced a mid-course correction is absolutely necessary if we are to restore integrity to our nuclear waste program, and provide a responsible and reliable framework by which we can safely dispose of the nation's accumulating nuclear waste.

I therefore welcome the introduction of S. 839 by the Chairman and Senator McClure. Although some critics have referred to it as a "bribe" to the state willing to be the site of a repository, I think they have missed the mark. The legislation recognizes that the people of the state and locality which is eventually selected as a site for a repository should be compensated generously for the use of this land. This is a unique and long-term burden that we will impose on such a site, and it is only appropriate that those who have enjoyed the benefits of the electricity generated at commercial nuclear power plants should bear the costs of disposing of the waste. The Act currently calls for grants and impact assistance payments to be paid from the Nuclear Waste Fund to affected states, tribes and local governments. But these amounts are totally inadequate once a site has been selected and construction of the facility begins. S. 839 recognizes this reality, although I would prefer to see this compensation offered after the necessary scientific and technical investigations have been completed.

In addition, this legislation authorizes the construction of an monitored retrievable storage (MRS) facility, as well as providing appropriate payments to the state which is selected for the site of the MRS. I certainly share the support which Chairman Johnston and Senator McClure have expressed in their legislation for the MRS concept. I believe the priority of development in the Act -- repository first, and MRS second -- should be reversed. I am considering introducing legislation which would mandate the construction of regional MRS facilities to provide interim storage for our nuclear waste.

I was fortunate to have traveled with several members of the Committee to Sweden and France over the Easter recess to examine the way they are dealing with the nuclear waste question. I have come back more sure than ever that rather than a headstrong rush toward the construction and operation of a deep geologic repository, we should provide an interim solution to the nuclear waste issue through the development of the MRS technology. By moving ahead with the MRS in advance of the deep geologic repository, we gain two advantages. First, it gives Congress, the Administration, states, utilities and others additional time to resolve the technical questions involving the final disposal of the nation's nuclear waste. Secondly, storing the spent fuel in an MRS for several years will allow much of the radioactivity and heat to decay away, easing significantly many of the technical constraints on final and permanent disposal. Some will make the argument that we can't postpone permanent disposal further -- that this generation has a moral obligation to dispose of this waste in a repository. This is a weak argument that indicates a striking lack of confidence in future generations. First, we may be permanently endangering the environment of future generations by placing this waste deep underground where it cannot be retrieved, without a high degree of certainty of how it will behave over a 10,000 year period. Second, we are probably doing future generations a disservice by throwing away a

I believe

massive source of potentially valuable energy. Third, doesn't this generation have an obligation to maintain an array of energy production technologies for the future, including the nuclear option, so that our nation is prepared for the day when we deplete our non-renewable, fossil energy sources?

Clearly, such a proposal would require us to make some important changes to the Nuclear Waste Policy Act, a difficult task at best. Yet I believe that we cannot simply ignore the fact that our nuclear waste program is in a shambles, and that without fundamental improvements we will face an ever-increasing number of lawsuits and delays, resulting in even higher costs and greater uncertainty for both states and utilities.

I look forward to working with the Chairman, Senator McClure and others on the Committee as we tackle this enormously difficult issue. While I fully understand how enormously complex this issue is, I believe that at this point, we cannot afford not to act.

The CHAIRMAN. Thank you, Senator Evans.

My good friend, Senator Harry Reid, is not a member of this committee, but I have asked him to be here because he is vitally interested in the subject. He has contributed to our discussions on these various bills, and I would like to ask Harry if he would like to make a comment.

STATEMENT OF HON. HARRY REID, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator REID. Mr. Chairman, thank you very much for your courtesy in allowing me to participate in today's hearings regarding the bill introduced by you and Senator McClure. I understand the courtesy extended, and I appreciate it.

I would like to take this opportunity, Mr. Chairman, to welcome the Governor of the State of Nevada, who will be on the first panel of witnesses and, in fact according to the witness list, will be the first witness today. I welcome my friend, Richard Bryan, the Governor of Nevada, too, here as well as other local officials from the State of Nevada.

Mr. Chairman, the Nuclear Waste Policy Act Amendments Act of 1987 proposes, as you have indicated, various incentives to the Nation's high level nuclear waste repository—that is, a State that is willing to take it.

The bill would also authorize construction of a monitored retrievable storage system, which Senator Evans spoke so eloquently about. DOE's search for a second permanent repository site would be deferred.

I want to extend to you my compliments for this legislation, because I know you are attempting to resolve this nuclear waste disposal dilemma, but at the same time, Mr. Chairman, as I have spoken to you personally, I must stress my strong opposition to the bill. Over the weeks since this bill has been introduced you have heard, and not by me, but you have heard people refer to this legislation as the grand compromise, a bribe, even nuclear blackmail.

I believe this proposal reinforces what I have said for many, many years. That is, the nuclear waste program is a political leper and is in serious trouble. The evidence clearly suggests that the site selection process is not based on technical suitability but rather on political expediency.

Congress began to show its displeasure with DOE's actions last year by restricting DOE's funding activities. Initial investigations by a House subcommittee documents the Department of Energy's manipulation of the first round process for site selection, and second round States are also calling for curtailed funding of the program. In fact, the primary author of the Nuclear Waste Policy Act, Mo Udall, the Interior Chairman, suggests "The only fair thing to do might be to start over."

All Senators from States selected by the Department of Energy for site characterization for deep geological repository have urged the Chairman of the Senate Appropriations Committee to reject the release of additional nuclear waste funds should DOE make the request. We agree that the agency has not complied with the consultation and cooperation requirement with the affected States and tribes set forth in the Nuclear Waste Policy Act.

The Department of Energy has itself acknowledged the program's many shortcomings. In January, DOE circulated to the States and Indian tribes its draft mission plan amendment to Congress to delay the opening of the first repository for 5 years because the agency cannot meet the requirements of the 1982 act. Finally, the Department's budget request for the program recognizes "the need to interact with Congress and resolve external issues before moving forward as planned."

In short, S. 839 does not meet the health and safety concerns of the public, the technical issues of site suitability, and essentially reinforces the belief that DOE has not properly handled the program. That is why I would like to reiterate House Interior Committee Chairman Udall's suggestion to start over.

I have never believed that geological siting is the answer and that by continuing to pursue the legislative mandate of the 1982 act we are closing ourselves off from safer, more efficient, and less costly alternatives for the handling of high level nuclear waste.

Mr. Chairman, with regard to this particular incentive legislation, I would like to refer to testimony submitted to this Committee by Thalia Dondero, chairman of the Clark County Commission, which is in the Las Vegas area, about the proposal. Clark County, as I have indicated, is adjacent to Nye County, the home of Yucca Mountain. Commissioner Dondero notes that:

> The proposed compensation bill is premature. We share frustrations of the Committee and the Congress with the problems that have occurred in the implementation of the Nuclear Waste Policy Act.
>
> Circumventing the process may not result in substantial time savings in implementing the Act and it may in fact delay implementation if the site being investigated is found to be inadequate. We who have worked with the program over the past several years and who will have to live with the decisions emanating from the Act have also felt that there are serious technical and institutional flaws in the program that need to be corrected.
>
> Many of these technical uncertainties have been isolated by the State of Nevada and once funded can be tested to determine impact. These are an integral part of the Act. The proper time frame to address compensation would be subsequent to the completion of the technical studies as specified under the Nuclear Waste Policy Act and not before.

That is the end of what Thalia Dondero has said.

In addition, Mr. Chairman, the city of Las Vegas, located not far from the Yucca Mountain, one of the proposed repository sites, is the central city in the metropolitan area's rapidly growing population of in excess of 600,000.

In testimony submitted by the city of Las Vegas, I quote:

> The issue of safety is a foremost nuclear waste consideration in the minds of these citizens. Additionally, the largest city in Nevada serves as a center of the State's southern transportation network. Unlike many cities in the east, all major interstate and U.S. highway and main line rail tracks which would likely be used to ship nuclear waste traverse Las Vegas.
>
> The city also suggests that while economic incentives are warranted to any State which is objectively selected, a substantial portion of the available revenues should focus on alternative methods of handling nuclear waste with the paramount concern safety, not money.

The testimony has been submitted, Mr. Chairman, of the city of Las Vegas, and will be part of this record, I understand.

I appreciate very much again, Mr. Chairman, the courtesies you have extended to me, and to all the parties from Nevada. You have been very cordial and cooperative, and you have indicated your understanding of the issue, for which I am grateful. And again I express my appreciation for allowing me to be here today.

[The prepared statement of Senator Reid follows:]

OPENING REMARKS OF THE HONORABLE HARRY REID
BEFORE THE ENERGY AND NATURAL RESOURCES COMMITTEE
S. 839: NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987
APRIL 29, 1987

Mr. Chairman and Members of the Committee, thank you very much for your courtesy in allowing me to participate in today's hearing on S. 839, the Nuclear Waste Policy Act Amendments Act of 1987, introduced by Chairman Johnston and Senator McClure. I would like to welcome Governor Richard Bryan from the State of Nevada, as well as local Nevada officials. Even local officials not scheduled to testify this morning are here in an effort to monitor the actions taken by this Committee which may ultimately have an impact on the State of Nevada.

The Nuclear Waste Policy Act Amendments Act of 1987 proposes an annual incentive of $100 million to the state that takes the nation's first high-level nuclear waste repository. The bill would also authorize construction of a Monitored Retrievable Storage (MRS) waste facility and allow payments of $50 million annually to a state that agrees to host it. DOE's search for a second permanent repository site would be deferred. I want to extend my compliments to the authors of this legislation who are attempting to resolve the nuclear waste disposal dilemma. But, at the same time, I must stress my strong opposition to the bill.

The legislation has been referred to as the "grand compromise," a "bribe," and even "nuclear blackmail." I believe this proposal reinforces what I have said for years. That is, the nuclear waste program is a political leper and is in serious trouble. The evidence clearly suggests that the site selection process is not based on technical suitability, but rather on political expediency.

Congress began to show its displeasure with DOE's actions last year by restricting DOE's funding activities. Initial investigations by House Subcommittees documents the Department of Energy's manipulation of the First-Round process for site selection. And Second-Round states are also calling for curtailed funding of the program. In fact, the primary author of the Nuclear Waste Policy Act, House Interior Committee Chairman Udall, suggests "the only fair thing to do might be to start over."

All Senators from states that have been selected by the Department of Energy for site characterization for a deep geologic repository have urged the Chairman of the Senate Appropriations Committee to reject the release of additional Nuclear Waste Funds should DOE make the request. We agree that the agency has not complied with the consultation and cooperation requirement with the affected states and tribes set forth in the Nuclear Waste Policy Act.

The Department of Energy has itself acknowledged the program's many shortcomings. In January DOE circulated to the states and Indian tribes its draft Mission Plan Amendment to Congress to delay the opening of the first repository for five years because the agency cannot meet the requirements of the 1982 Act. Finally, the Department's budget request for the program recognizes "the need to interact with Congress and resolve external issues before moving forward as planned."

In short, S. 839 ignores the health and safety concerns of the public, ignores the technical issue of site suitability and essentially reinforces the belief that DOE has not properly handled the program. That is why I would like to reiterate House Interior Committee Chairman Udall's suggestion - to start over. I have never believed that geologic siting is the answer and that, by continuing to pursue the legislative mandate of the 1982 Act, we are closing ourselves off from safer, more efficient, and less costly alternatives for the handling of high-level nuclear waste.

Mr. Chairman, with regard to this particular "incentives" legislation, I would also like to refer to testimony submitted to this Committee by Thalia Dondero, Clark County Commissioner of Nevada, about the proposal. Clark County is adjacent to Nye County - home of Yucca Mountain. Commissioner Dondero notes "that the proposed compensation bill is premature. We share the frustrations of the Committee and the Congress with the problems that have occurred in the implementation of the Nuclear Waste Policy Act. Circumventing the process may not result in substantial time savings in implementing the Act, and it may, in fact, delay implementation if the one site being investigated is found to be inadequate. We, who have worked on the program over the past several years and who will have to live with the decisions emanating from the Act, have also felt that there are serious technical and institutional flaws in the program that need to be corrected. Many of these technical uncertainties have been isolated by the State of Nevada and, once funded, can be tested to determine impact. These are an integral part of the Act. The proper time frame to address compensation, would be subsequent to the completion of these technical studies as specified under the Nuclear Waste Policy Act, and not before."

In addition, the City of Las Vegas, located approximately 100 miles southeast of Yucca Mountain - one of the proposed repository sites - in Clark County, is the central city in the metropolitan area's rapidly growing population of 550,000. In testimony submitted by the City of Las Vegas, I quote "the issue of safety is the foremost nuclear waste consideration on the minds of these citizens. Additionally, the largest city in Nevada serves as the center of the state's southern transportation network. Unlike many cities in the East, all major interstate and U.S. Highway and mainline rail tracks which would likely be used to ship nuclear waste traverse Las Vegas." The City also suggests that "while economic incentives are warranted to any state which is objectively selected, a substantial portion of the available revenues should focus on alternative methods of handling nuclear waste with the paramount concern safety, not money." I request that the full testimony of Commissioner Dondero and the City of Las Vegas be submitted in the hearing record.

Thank you again for the opportunity to participate.

The CHAIRMAN. Thank you, Senator Reid. I appreciate those comments. Just one comment I would like to make, and that is on the question of whether this is premature or not. You know, the reason we can make a nice benefit package is because it will speed up the time and avoid characterization of two other sites. If S. 839 does not pass and we go through the regular procedure and then a site is picked I think it is highly, highly unlikely that there would be any additional benefits package. So call it premature if you will, but if you want to get the benefits, now is the time to do them.

Now I would like to introduce a very distinguished panel. With us are the Honorable Richard Bryan, Governor of Nevada; Terry Husseman, representing the Governor of Washington; and Steve Frishman, representing the Governor of Texas.

We are very glad to have this panel. Governor, we will have you lead off, and if you would like to put your written statement in the record, or if your would like to read it we will allow you to—you can be like the big gorrilla today. You can do whatever you want to do. On second thought, I hear that this [indicating a large document] is your statement. [Laughter.]

STATEMENT OF HON. RICHARD H. BRYAN, GOVERNOR, STATE OF NEVADA, ACCOMPANIED BY ROBERT LOUX, HEAD OF THE NUCLEAR WASTE POLICY OFFICE, STATE OF NEVADA; AND WRIGHT ANDREWS, ESQ., SUTHERLAND, ASBILL AND BRENNAN

Governor BRYAN. Thank you very much, Mr. Chairman.

I am Governor Bryan from Nevada, and sitting to my right is Mr. Rob~~ert~~ Loux, who heads up the Nuclear Waste Project Office for the State of Nevada, and accompanying me to my left is Mr. Wright Andrews of the Washington law firm of Sutherland, Asbill & Brennan.

Lest your committee be apprehensive that I am going to read all of that which has been prepared for you, we have this morning prepared a brief statement that addresses the issues and will make reference from time to time to the larger text which has been provided to you and your staff.

Let me, if I may, Mr. Chairman and members of this committee, preface my remarks by expressing my appreciation for the opportunity to appear here before you this morning to discuss Nevada's concerns regarding DOE's implementation of the high level waste repository program and to explain how these concerns might be satisfactorily resolved.

I have discussed these critical matters at some length in the testimony which has been previously submitted to you. This morning I will highlight three fundamental points.

One, the key concepts of the 1982 Nuclear Waste Policy Act. I think it is important that we spend some time this morning, Mr. Chairman and Members of the committee, on that act, because as Mr. Justice Holmes once observed, a page of history may be more instructive than a volume of logic, and I think the history of this Act is extremely important for you and the members of this committee to understand Nevada's perspective.

Secondly, we will talk about how DOE has improperly implemented the Act.

Finally, the basic congressional options that are available to you in dealing with these problems with a focus on how Congress can get this troubled program back on the track intended in the 1982 act.

We now are at a critical crossroads in the search for a permanent repository. As I have recently advised Chairman Johnston, the time has come to address and resolve the program's problems. The affected States have concluded that the present DOE program is beyond repair, and that they can never accept hosting a repository under this flawed program.

The question arises as to why. Because DOE's key program implementation decisions, for example the siting guidelines, the environmental assessments, the site selection progress, and many of the key standards or interpretations and data involved in these matters deviate from the act and have been so fatally flawed and biased that the DOE program simply has no credibility with the States. These defects are so fundamental that they cannot be corrected without rolling back many of these DOE decisions and actions and reimplementing the program.

No States designated for characterization under this unfair program would ever accept the selection as the host State if this is not done. States' hostilities and defensive actions will only continue unless corrective action is taken. This will not only greatly delay the program, but will ultimately prevent the siting of any repository under this program. Hundreds of millions and perhaps billions of ratepayers' dollars will be wasted unnecessarily if Congress does not act to address these problems.

Therefore I am here to urge strongly that you stop the current DOE repository program by legislative action. An immediate moratorium and investigation is urgently needed. After carefully evaluating its many defects and its costs you can, one, return the program relatively quickly to the course intended by the 1982 Act, which is the only road that can lead to an operating safe waste repository in the relatively near future; or two, if its costs are found to be too great you can shift the focus of the program away from the repository concept to a longer term interim storage approach which would have much lower costs at least in the near term.

While Nevada is prepared to fight with all of its resources, we are also prepared for a cooperative and good-faith effort with the Congress and other interested parties, including second round States, nuclear utilities, and others for fairly resolving our concerns and putting the repository program back on its intended track. Given hindsight and experience, we naturally can today suggest ways to strengthen the act and to ensure that its basic intent is faithfully carried out.

However, I want to make it absolutely clear this morning that we do not quarrel with the act's basic provisions and underlying concepts. To the contrary they are both sound and essential, and we strongly favor retaining them if the permanent repository approach is retained.

Let me if I may focus attention on the essence of why the 1982 act's provisions were crafted as they were. Because no State or region wanted a high level waste site, Congress knew that for any State eventually selected ever to be able to accept the site, the siting process would have to be fair to individual States and regionally balanced because there is no reason for the East, which produces most of this waste, why it should not or could not bear a substantial part of the burden of handling at least its own high level waste.

Two, be highly credible. That is, carried out in an objective, scientific, and technically sound manner without political or other bias.

And finally, ensure that any final site chosen would be totally safe.

To help ensure that the act's process would be credible and result in acceptable sites, Congress provided that affected States and tribes would have a major oversight role through active participation and consultation with DOE during the course of the siting process.

Congress clearly understood that, one, many potential sites had to be screened; secondly, that detailed site characterization activities would be required of the best apparent sites to determine if a site was really safe; three, comparing among a group of qualified sites after a characterization, before selecting a final site, was critically important in order to ensure fairness, the timely opening of a repository, and that the best available site would be chosen.

Such considerations really were at the heart of the act's framework for a workable and acceptable siting process. Unfortunately, DOE did not understand the critical importance of adhering to the act's clear intent. DOE's incredibly insensitive and misguided implementation of the act has led to this program's downfall.

Before illustrating how DOE has failed I must emphasize that Congressional analysis must move beyond the simply oversimplified "not in my back yard" or "it's all politics" explanation for the repository program's problems and focus instead on DOE's misguided implementation actions.

Many Members from other States understandably but unfortunately seem to think that our objections are grounded primarily in politics or the "not in my back yard" attitude. Some even analyze the repository program from a double "not in my back yard" perspective because they also apparently base many of their actions or inactions on trying to keep a repository out of their own State or region because of their own political "not in my back yard" approach.

Greater understanding and more statesmanship will be required for the program's problems to be resolved. Yes, the "not in my back yard" is an attitude that will always be present to some degree in any State's view of the nuclear waste problem.

However, this inherent citizen uneasiness with the nuclear repository is precisely why Congress drafted the 1982 act to ensure enough acceptance through a scientifically based, fair, and credible siting process. Congress must recognize that DOE clearly has not established such a process. It is DOE's failure, not simply the "not in my back yard" approach, that has led the first round States to demand that the program be halted. Let me take a few moments, if I may, to share with you Nevada's major objections and concerns.

As I discuss these concerns I invite you to review the yellow charts outlined at pages 12 through 21 of the written testimony which has previously been provided to you. Those are these documents, Mr. Chairman and Members of the committee.

I will cover these concerns very briefly and spend most of my remaining time focusing on the congressional options available to you for dealing with these problems. Our concerns fall into the following five broad categories: seriously flawed siting guidelines; denial of a meaningful State consultation, participation, and oversight; scientific and technical questions; DOE's biased and politicized site nomination and selection process; and finally, DOE's illegal attempt to cancel the second round siting process.

With respect to categories two, four, and five, let me say that Congress and other interested parties have vividly seen through DOE's recent blatantly illegal and incredibly mishandled attempt to disregard the Act and cancel the second round siting effort by administrative action and through the evidence revealed in the House subcommittee's investigation of the first round siting process, the type of grossly biased and politically motivated actions that the first round States have experienced from the outset.

In that regard you have heard us object repeatedly to DOE's denial of our rights for a meaningful State consultation, participation, and oversight. DOE has essentially paid only lipservice to the fundamental concept and refuses to acknowledge or allow proper State involvement as intended by the Act. DOE's continuing efforts to deny or delay Nevada adequate program funding is a clear example of how DOE seeks to prevent effective and meaningful State oversight.

It is essential to understand that the siting guidelines which serve as the basic foundation and framework for implementing the act have undercut the entire program because their flawed provisions are the basis or standard for subsequent key decisions—for example, the site nominations—and have ensured a costly and inclusive program. Therefore the only way to correct these problems is to roll back subsequent decisions, reissue proper guidelines, and then reimplement the Act as Congress originally intended.

What is the basic problem with the guidelines? In essence we find that the guidelines allow DOE to run essentially a mission-driven race trying to site a repository according to its predisposition as though the 1982 Act had never been enacted. It is on this critical point that I would like to focus your attention today.

DOE's guidelines lack objective and impartial standards and allow DOE to make highly subjective determinations and in effect guarantee that DOE can largely disregard the act's intended siting process and continue with its earlier characterization efforts. Therefore DOE has been approaching the act as a charade and has been able to keep targeting on the prime sites, Nevada and Washington, that it was considering long before the act's passage.

Let me illustrate how the guidelines have let DOE continue to focus on its preselected targets. The guidelines contain a presumption that a site is qualified until there is data that would clearly disqualify the site. This presumption works in tandem with another guideline concept, which is that little disqualifying data must be gathered early in the siting process.

Therefore DOE has been able to conclude on the basis of very limited data that a site is potentially acceptable because it has no disqualifying data and thus proceed to select that site for characterization. Moreover, the guidelines' failure to require adequate initial screening or to focus more on the collection of potentially disqualifying data early in the siting process also allows inferior sites to be picked for characterization.

This makes relatively poor sites appear good by comparison. Such a distorted process obviously is unfair, and clearly does not ensure that the best or safest available site is selected on the basis of valid comparisons.

Like most Members of Congress, I am not a scientist. But as an elected official I am keenly aware of the importance of ensuring that significant scientific and technical concerns are adequately addressed. Unfortunately, many people have been trying to create the impression that the Nevada site is a panacea, largely free of technical problems. I must emphatically state that they are seriously mistaken. As my written statement and attachments explain in more detail, Nevada has a number of significant scientific and technical concerns regarding the Yucca Mountain site. Again I invite your attention to the outline of these concerns contained on pages 14 through 17 in the yellow charts which accompany my written statement.

As you will note from these charts, based on DOE's siting guidelines, five disqualifying conditions may be present. These conditions relate to post-closure and pre-closure tectonics that is faulty, geohydrology, off-site installations and operations, and socioeconomic impacts caused by water degradation. Additionally, there may be present at the Yucca Mountain site valuable natural resources such as gold and silver.

Other areas of major concern such as volcanic activity have been identified in which available evidence about the site suggests that positive findings cannot be made at the present time, as DOE has improperly done in its environmental assessment, and that other potentially disqualifying conditions are present.

Our top technical expert has met recently with your Committee staff to explain our technical concerns in more detail. Although I will leave it to our experts to explain further these potentially disqualifying features of the Yucca Mountain site, I would like to highlight briefly several significant points regarding these concerns.

DOE has simply failed to address major technical areas, disregarded conflicting data, or avoided collecting disqualifying data, and failed to consider a range of likely or possible interpretations of actual data and data produced by modeling.

DOE's data in many instances also is of questionable validity due to the lack of a quality assurance program during the data collection stages. Such unsound, costly, and clearly biased methods and suspect data have let DOE make overly favorable or optimistic conclusions with regard to the suitability of Yucca Mountain and thereby continue to target its pre-act favorite.

At best the only conclusion DOE reasonably could draw from its studies to date, if they could be considered reliable at all, is that various potentially disqualifying conditions at the site cannot be ruled out at this time and in a number of instances may well be present. I must emphasize that we have repeatedly raised our technical concerns with DOE. The fact that DOE refuses to give most of these concerns serious consideration is very alarming. Instead of calming our fears, they disregard and therefore increase them.

Finally, let me emphasize one more important fact regarding our technical and scientific concerns. Even if we were to assume that after detailed study Yucca Mountain site would appear to be qualified—that is, that it would be a safe site—I want to make it absolutely clear that we would still never be willing to accept a repository under the present DOE program. We believe that there are in fact many good technically suitable sites throughout the United States. We will never accept being named under the present flawed unsupportable politicized process developed in gross disregard of fundamental principles of fairness and of the act's basic requirements.

This brings me to the central question facing this committee. How might the Congress deal with these many serious problems? There appear to be only a few basic options. These options are outlined in the yellow charts at page 35 to 40 of my written statement. As these charts indicate, there are essentially five basic congressional options concerning DOE's high level waste program.

Number one, do nothing.

Two, establish an alternative siting process.

Three, scrap the 1982 act and replace it with a different siting approach.

Four, scrap the permanent repository concept and shift to a long-term storage approach.

Or five, retain the act but make necessary midcourse corrections, as Congress did in the 1985 Low Level Waste Act.

We favor pursuing the fifth option of making midcourse corrections to the act. However, if this cannot be done because of cost factors or other considerations, then shifting to a storage concept appears to be the most appealing and workable approach.

Doing nothing is not an appropriate option. It is not an appropriate option in our judgment. It should now be beyond question that DOE's program is totally off track and in serious trouble. It simply would be irresponsible for Congress to fail to deal with these problems by doing nothing and letting them continue to worsen.

The alternative citing process option: The interesting option of leaving the present act in place but establishing an alternative siting process, has been suggested recently by you, Mr. Chairman, and Senator McClure. This approach, contained in S. 839, would essentially provide a significant incentive payment to any State that volunteers to host a repository or an MRS. In return for receiving this money, the host State basically would have to forego its rights and protections under the 1982 act and various other laws, and would have to cooperate in expediting the siting effort and would become in essence a coapplicant in the licensing process.

This legislation shows that this committee's leadership recognizes that there are very serious problems with DOE's present program. I must applaud its sponsors for their creativity and initiative in trying to find a way to do something about these problems. However, I must candidly tell you that Nevada cannot endorse this legislation.

I would be very surprised if any State would show real interest in pursuing this particular alternative concept as now drafted because its economic incentives could never buy the public trust and confidence that are essential for a site to be accepted or tolerated.

The only reasonable basis for any State today to accept the site is to be selected as the best available site after a highly credible site selection process that fairly compares other potential sites, as was intended in the original 1982 act. These concepts are especially important in a State like Nevada, where public trust in the fairness of the present process and in the safety of the site has been destroyed by DOE's actions.

On the other hand, I think that the central concept of S. 839 that any State hosting a repository should receive substantial special compensation is quite correct. You, Mr. Chairman, and Senator McClure have made a very important contribution by recognizing the need for such additional compensation. I would urge the committee to include this concept when it reports any broader bill containing the fine tuning amendments to the present act.

Various observers now are so frustrated with DOE's program that they are suggesting dropping the act. Some Members from Eastern States apparently have shown interest in one such approach which would in effect scrap the act by ratifying many of DOE's errors and violations of the act, by adopting DOE's proposed mission plan amendments.

I can understand why many Eastern States might want to be off the hook when it comes to being responsible for the very large quantities of high level waste generated by nuclear utilities within their borders. However, western States like Nevada are not interested in the one-sided deal some are now proposing.

There is another even more direct and blatant alternative that has been suggested for scrapping the 1982 act. Some parties are saying that the most politically expedient thing to do would be to simply change the rules and have Nevada take the repository.

I must tell you that we continue to be amazed that some parties apparently are trying to create the misimpression that Nevada is really willing to take the site and are just holding out for the right price. Because I have explained how totally erroneous and unacceptable this approach would be in my statement and in my correspondence with you, Mr. Chairman, I will only now restate that this is not a viable option.

Approximately 80 percent of Nevadans oppose the repository as evidenced in part by the resolutions adopted by various local government entities which are attached as part of my written testimony. Moreover, given the flaws, political manipulation, and other biases in DOE's site selection process, there simply is no way that it can be said that Nevada has necessarily either the best available site or even a viable site. It is time for people to stop dreaming of a quick fix solution and to focus their energies on how to get DOE's program back on the track intended by you, Mr. Chairman, and other Members of Congress in the 1982 act.

The only apparent viable and fair current option for permanent disposal solution is retaining the 1982 act with the addition of certain fine-tuning amendments to ensure that DOE implements the program as Congress originally intended.

Although we consider the present DOE implementation program beyond repair, we are also convinced that the act itself is not. Its concepts generally are fair and sound. Clarifying and technical amendments are needed, however, to ensure that the siting process actually will lead to an operational repository in the relative near term. Under this option there appears to be two basic alternatives.

The first would essentially involve imposing a moratorium on site-specific work and a rollback of DOE's many totally unacceptable first-round decisions coupled with the creation of an independent, impartial repository investigation commission like the recent Rogers and Tower Commissions. This commission could promptly study what has gone wrong with DOE's programs and make the appropriate recommendations to Congress. Such a commission would expedite the process, and perhaps most importantly, depoliticize it, thereby helping to reestablish the program's credibility and acceptability.

While we support a moratorium and an independent unbiased commission type review of DOE's program—if Congress will recognize the validity of our concerns—we are prepared to work with you and other parties in drafting fine-tuning amendments to ensure a siting process that fairly follows the 1982 act.

It will be necessary in a number of instances to spell out the amendment's intent in considerable detail through the statutory language. This approach will help to prevent subsequent misinterpretation.

Amendments also should include provisions for dropping the recommendation of Nevada, Texas, and Washington for site characterization because such recommendations were based on DOE's biased and flawed program.

Adopting realistic time lines so that key program decision are not driven and biased by artificial and unreasonable deadlines, withdrawing the guidelines of multiple attribute utility analysis, MUA, and the environmental assessments; issuing new revised and biased guidelines, MUA, and EA's that are objective, scientifically grounded, not subject to undue agency manipulation or to allowing an agency to follow its predispositions, irrespective of the act; screening for additional potentially acceptable sites in conformance with the revised siting guidelines; requiring a more phased screening approach to site characterization whereby more information concerning whether a site is likely to be disqualified is obtained earlier in the siting process, thereby ensuring better potential sites will be characterized; ensuring greater and earlier involvement and concurrence by NRC and EPA in the siting program; guaranteeing greater State and tribal rights of active participation, consultation, and oversight in the process; creating an independent and ongoing oversight and dispute resolution board to monitor and where necessary to redirect DOE's implementation of the program; providing greater economic incentives to the host States; and requiring new procedures to limit conflicts of interest that may arise because DOE contractors involved in site evaluation and nomination may also greatly benefit if the site they are evaluating is being characterized.

The DOE HLW program office also would have to be reorganized and new personnel assigned to key policy positions. Many of the present personnel are considered so biased that credibility and trust could never be restored to the program if they remained as the decisionmakers on these issues. Congress also might consider shifting the entire program or major portions thereof to another Federal agency.

Mr. Chairman, as you consider the options for dealing with this DOE program's many problems, I want to urge this Committee to give very careful attention to the issue of program cost. Site characterization cost at each site now is estimated at approximately $1 billion. This raises a number of concerns, and it calls into question DOE's management of this program.

Let me note two other important points regarding the program's cost. Given the fact that DOE has so thoroughly mismanaged so many key aspects of this program, how can you expect anything but poor management when it comes to cost containment?

Moreover, as explained in my written statement, DOE's numbers simply cannot be trusted any more than any of its other program elements. This means that you cannot automatically accept the cost comparisons that have been made or the other judgments such as site rankings that are based on such cost data. Such important cost questions also clearly provide a major further justification for imposing an immediate moratorium on DOE's out-of-control program and for conducting a thorough cost audit as part of an overall detailed investigation.

Although I would be surprised if a proper audit did not reveal tens or even hundreds of millions of dollars being unnecessarily wasted, and did not propose management and other changes to achieve significant savings, I still have no doubt that Congress will find that having a repository program in the United States will be very expensive regardless of such changes.

Mr. Chairman and members of the committee, it may be that the cost of such a permanent disposal program at this time is just too high for our Nation to bear. If Congress makes that policy decision after a full and fair hearing of the facts, then it would seem necessary to shift to the much cheaper storage option while we attempt to find new technologies and less costly ways of dealing with our nuclear waste problem.

Mr. Chairman and members of the committee, I hope that my testimony today has helped to clarify the issues that must be resolved to solve the many problems that have developed during the course of DOE's administration of the repository program. I would be happy now to respond to any questions that you might have, Mr. Chairman, or the members of the committee.

[The prepared statement of Governor Bryan follows:]

STATEMENT OF

THE HONORABLE RICHARD H. BRYAN

GOVERNOR

STATE OF NEVADA

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

April 29, 1987

INTRODUCTION

Chairman Johnston, and Members of this Committee, I am pleased to appear here to discuss Nevada's concerns regarding DOE's implementation of the high-level waste (HLW) repository program and to explain how these concerns might be satisfactorily resolved. After making certain introductory comments, my testimony will highlight three fundamental points:

- **Key Concepts Of The 1982 Nuclear Waste Policy Act;**
- **Major State Objections And Concerns Regarding DOE's Implementation Of The Act; and**
- **Basic Congressional Options For Dealing With The Problems Of The DOE HLW Program, With Special Emphasis On Legislative Approaches For Getting The HLW Program Back On The Track Congress Intended In The 1982 Act.**

IT IS TIME FOR CONGRESS TO ADDRESS THE REPOSITORY PROGRAM'S PROBLEMS

We now are at a critical crossroads in the search for a permanent repository. If Congress and the States and Tribes do not quickly reach an accommodation and achieve consensus on how to resolve the program's problems, we may never get this troubled program back on track.

As I have recently advised Chairman Johnston, and will comment on more below, **the time has come to address and resolve the repository program's major problems.**

- The affected States have concluded that **the present DOE program is "beyond repair" and that they can never willingly accept hosting a repository under this flawed program.**
- **It must be understood by all interested parties that because so many of DOE's fundamental, underlying program implementation decisions made up to this point----e.g., the Siting Guidelines, the Environmental Assessments, the site selection process, and many of the key standards or interpretations involved in these matters etc.----have been so fatally flawed and biased, that it will be impossible for any of the States designated for characterization under this unfair program ever to accept selection as the host State.**
    - Each of the nominated States quite correctly feels that if the Act had been properly and fairly implemented and if appropriate conservative assumptions about site characteristics were employed, it would not have been selected for site characterization, and that even if it had been, the State would be disqualified or not selected for legitimate technical or comparative reasons.
    - Moreover, the affected States' experiences with DOE have left us with no option but to conclude that we can not trust DOE's technical analysis or data and that there can not be reasonable assurance under DOE's program that a site would be safe, let alone the best site available.

States' hostilities and defensive actions will only increase, and we firmly believe that this will not only greatly delay the program but will ultimately prevent the siting of any repository under this program.

- If this battle intensifies, hundreds of millions, and perhaps billions of ratepayers' dollars will be wasted unnecessarily.

Today's hearing and your Committee's immediate follow-up responses can be instrumental in setting the future direction and tone of the repository siting program. You can allow the program to continue lumbering along its present chaotic path, or you can help return it promptly to the proper course intended by the 1982 Act.

A COOPERATIVE, GOOD-FAITH, REASONED AND FAIR APPROACH SHOULD BE ADOPTED FOR SOLVING THIS NATIONAL PROBLEM

I am here to urge that you help return the program to the course intended by the 1982 Act. This is the only road that can lead to an operating, safe waste repository in the relatively near future. I submit that it would be clearly irresponsible for those of us who are State and federal elected officials to fail to work together to achieve a satisfactory permanent solution to these waste disposal problems. We have the opportunity, provided all key parties have the will and interest, to fulfill our leadership responsibilities and to deal with these problems now.

Thus, while Nevada is prepared to fight harder, we also are prepared for a truce and for a cooperative effort with the Congress and other interested parties for fairly resolving our concerns and for putting the repository program back on its intended track. Today, I offer Congress the pledge that the State of Nevada will cooperate and work in good faith in a constructive manner, provided Congress and other parties, including Second-Round States, will do likewise, on legislative measures to correct the repository program's fundamental flaws in a fair and reasonable way. I also would make a special plea to the leaders of the nuclear utility industry, who have a vital interest in finding a permanent solution to this problem, to recognize the seriousness of the problem and to join us in this cooperative effort.

Let us now proceed to solve this major national problem by working together while we can.

GREATER UNDERSTANDING IS NEEDED

- At last, we seem to be at a point where many key Congressional leaders and other informed parties recognize that DOE's program has gotten far off the intended track and that it is in serious trouble. **As Chairman Johnston recently has said: "unless a new consensus is forged, the program cannot proceed."**

- However, many important parties still do not adequately appreciate how and why these problems have arisen. Therefore, it is not surprising that misunderstanding, coupled with frustration, are generating various inappropriate proposals.

- **It is evident that the States must provide policymakers with a more detailed explanation of the problems before workable solutions can be crafted and agreed upon.**

In view of this situation, I come here today not simply to object to DOE's mishandling of this program, but to help clarify the issues and to move us forward in a positive manner. Given Nevada's extensive first-hand experience with this program, I can speak with considerable knowledge about this subject.

"NO QUICK FIXES"

There unfortunately are no satisfactory "quick fixes," but permanent solutions definitely can be developed relatively quickly. I will try my best to help this Committee and other interested parties better understand the essence of our concerns and how they can be resolved so that we can move toward such solutions.

- **In reality, while the high-level waste disposal issue involves far more problems than simplistic "not in my backyard" ("NIMBY") concerns or political gamesmanship, it is not nearly so complex or difficult to understand as many have led us to believe.**
- **Nor should it be impossible or politically unpalatable to resolve these issues in a manner acceptable to all major interested parties.**
- **However, because the present program has been so biased and contrary to the Act's concepts, it is impossible to resolve these issues satisfactorily without rolling back many of the key program decisions and reimplementing the program in a manner consistent with the Act. While this will require some short-term delays, it will result in a quicker, more cost effective and more permanent solution in the long run.**

To understand why problems have arisen and how solutions may be crafted, it is necessary to recall certain key points regarding the history and intent of the Act.

KEY CONCEPTS OF THE 1982 ACT

When Congress passed the Nuclear Waste Policy Act in 1982, it did a very commendable job of setting up a workable statutory framework for siting the Nation's high-level waste repositories. A number of the Members of this Committee played key roles in crafting the difficult political and practical compromises that enabled this landmark legislation to be enacted.

Although the Act is not perfect, no one should expect such pioneering legislation to be so. Of course, neither should anyone possibly expect that Congress could have foreseen the incredibly inappropriate and illegal way DOE has implemented this program. Given hindsight and experience, we naturally can today suggest ways to strengthen the Act and to ensure that its basic intent is faithfully carried out. However, I want to make it absolutely clear that we do not quarrel with the Act's basic provisions and underlying concepts. To the contrary, we believe that they are both sound and essential, and we strongly favor retaining them.

Why The 1982 Act's Framework Was Developed

- Prior to the Act's passage in 1982, there had been a long history of unsuccessful attempts to find a way to deal with the Nation's highly radioactive and highly dangerous nuclear waste.
- Then, as now, no State volunteered for, or wanted to host a high-level repository.
- **This was especially true with regard to Western States, such as Nevada (which has no commercial nuclear power plants), and which have long felt that the Eastern States, which generate most such waste, can and should be responsible for disposing of their own nuclear waste without dumping it in the West.** Western States demanded that, at a minimum, Eastern States had to share a substantial part of the disposal burden for their own nuclear waste.
- Congress therefore wisely recognized that it would be totally unfair and unacceptable simply to try to have only a Western repository to dispose of waste generated primarily in the East.
- Congress also realized that it was both unwise and improper to attempt to impose a repository site on one or two States.
    - It foresaw that there was too great a risk of delay in finding a qualified site if only a single site was considered because detailed studies might eventually reveal the site was not technically suitable.
    - Moreover, Members recognized that seeking to impose a site on an unwilling State would be politically unacceptable. Senator Jackson, for example, during the floor debate noted that "[w]e must structure the legislation in a way to insure that no individual States believe that they have been unfairly singled out as a site for a nuclear waste disposal facility. Senator McClure also stressed that "we know that

> one repository is not going to be sufficient nor should we ask that one State accept the burden of a repository . . . . Otherwise you will eventually get to the point where one State will, perhaps, feel it has indeed been wronged in this process."

- Congress understood that after carefully screening a number of potential sites, detailed site characterization activities would be required to determine if a site was really safe. Moreover, Congress appreciated the critical importance of characterizing a number of apparently good sites and then carefully comparing among a group of qualified sites after characterization before selecting a final site in order to ensure: (1) fairness; (2) the timely opening of a repository; and (3) that the best available site would be chosen from among the group of qualified sites after the characterization process (i.e., that disqualifying conditions discovered during detailed studies would not leave us without adequate choices of viable sites). Congress thereby sought to create a viable siting process that would lead to several repository sites.

- **Because no State or region wanted such a site, Congress knew that for any State eventually selected ever to be able to "swallow hard" and accept the site, this siting process would have to:**
    - **be fair to individual States and regionally balanced;**
    - **be highly credible (i.e., carried out in an objective, scientifically and technically sound manner without political or other bias); and**
    - **ensure that any final site chosen would be totally safe.**

- **To help ensure that the Act's process would result in credible and acceptable sites, Congress provided that affected States and Tribes would have a major oversight role, through active participation and consultation with DOE in the siting process.**

Let me state without hesitation my conviction that if DOE carried out the repository program as Congress and the States had envisioned when the Act was passed, we would have a fair and credible process today that would lead to several safe sites and that the host States would, however reluctantly, find the ultimate siting decisions acceptable. However, DOE failed to implement the program in a proper or workable manner.

MAJOR STATE OBJECTIONS AND CONCERNS REGARDING DOE'S IMPLEMENTATION OF THE ACT

As you are well aware from our prior testimony and numerous other communications, Nevada and the other affected States and Tribes have voiced serious objections to DOE's repository program since its early days. However, given your many other important duties and the longstanding and somewhat evolutionary nature of our disputes with DOE, we recognize that it has been very difficult, if not impossible, for many in Congress to appreciate fully our various objections.

CONGRESSIONAL ANALYSIS MUST MOVE BEYOND THE SIMPLISTIC "NIMBY" EXPLANATION FOR THE REPOSITORY PROGRAM'S PROBLEMS AND FOCUS ON DOE'S MISGUIDED IMPLEMENTATION ACTIONS

Given the blurring of objections and the inherent political aspects of this issue, **many Members from other States understandably, but unfortunately, seem to think that our objections are grounded primarily in politics, and they analyze the repository program from what I might call a "Double NIMBY" perspective.** This type of analysis is one of the most troubling "roadblocks" or "mindblocks" to understanding that exists regarding the repository program.

- They mistakenly think that the affected States object to this program mainly on political grounds because their citizens' natural reaction toward having a nuclear waste dump is "not in my backyard" irrespective of any other considerations; and
- These Members, being able politicians, also may conclude that they can remain in office much longer by assuring their own States' citizens that nuclear garbage will never be disposed of there, even if it is produced in their State and could be handled safely there.

The 1982 Act Was Designed to Overcome "NIMBYISM"

Yes, "NIMBY" is an attitude that will always be present to some degree in any State's view of the nuclear waste problem. However, this inherent citizen uneasiness with a nuclear repository is precisely why Congress drafted the 1982 Act to ensure that a scientifically based, fair and credible siting process would be developed. Only by having such

a process could any State ever gain enough public and political acceptance to permit the location of a repository within its borders.

Unfortunately, while Congress and the States understood the critical importance of adhering to the Act's process, DOE clearly did not.

- DOE's flagrant disregard of the Act's concepts and requirements has of course flamed the "NIMBY" fires, and enhanced, rather than diminished, citizens' natural fears.
- More importantly, DOE's incredibly poor and insensitive performance concerning most key aspects of the program has destroyed public trust and credibility, and therefore the program's acceptability. As a result, there can be no hope of ever siting a repository under the current DOE program.

"NIMBY" Attitudes Are Not Nevada's Motivating Factor

Because Second-Round States have had only limited experience with DOE, Congress may have some basis for concluding their negative reactions are largely motivated by "NIMBY" attitudes. However, Congress must understand that such concerns are quite secondary in Nevada and the other affected First-Round States and Tribes.

Our actual experiences with DOE have given us more than enough legitimate and substantial grounds---for example, serious questions concerning the proposed Nevada site's safety, and DOE's unfairness, lack of credibility and its politicization of the program---to fight to stop this process. We have had no choice but to challenge DOE in court because of its numerous violations of the Act's legal requirements and protections. Anyone who seriously and fairly analyzes how DOE has implemented this program cannot but recognize immediately that such issues are more basic, overriding and quite legitimate causes of our concerns.

The time has come for Congress and other interested parties to move beyond the simplistic, convenient "NIMBY" analysis, to face up to the real causes of the problems in the repository program, and to help us resolve them in a fair and reasonable manner. With your leadership and cooperation, we are confident that this can be done.

NEVADA'S FAIR SHARE

Before describing our specific objections to DOE's implementation program, I want to explain another concern that is somewhat unique to our State, and perhaps a few others (and that should not be confused with the "NIMBY" attitude). This is the feeling of many

Nevadans that we already have done more than our fair share for the nation on nuclear issues. We have hosted the only site for testing our military's critically important and constantly evolving nuclear weapons for the past forty years. This essential testing program means that a significant area in the State is permanently devoted to such federal purposes. We have accepted this unique nuclear project, but many of our citizens feel strongly that bearing this special burden, as well as having a low-level nuclear waste disposal site operating for over thirty years, is more than enough for us to contribute to the nation's nuclear programs. This belief is especially strong here because we know that there are many good potential sites available in other States for a nuclear repository. We also are keenly aware that Nevada has no nuclear power plants.

In this connection I must raise another critical issue--the degree to which locating **a waste repository** at Yucca Mountain **would conflict with our weapons testing program.** Not only is it unclear how the present testing program, which is being conducted approximately 30 miles from the repository site, is affecting the integrity of the tuff rock formation at Yucca Mountain, but substantial areas of the Test Site already have been used up, and it seems likely that testing will eventually have to shift much closer to the proposed repository. Moreover, there are new indications that important weapons testing activities related to the SDI program may have to be shifted to within several miles of the proposed repository site, due to recent fracturing in the current testing area. This might pose an irreconcilable conflict between these two programs. Clearly, such institutional conflicts should disqualify the site for waste program purposes. Additionally, the actual effects of nuclear explosions only a few miles from Yucca Mountain are likely to so weaken the site, as suggested by the NRC staff, that it may not be capable of providing the necessary isolation and containment required. Therefore, this is an issue that must be fully investigated.

Nevada has been carrying a heavy load for the nation in other respects as well. Eighty-seven percent (87%) of the land in our State remains under federal ownership, thereby stifling our development. Thus, I am sure you can understand that **we must challenge those who propose to site the repository in Nevada to justify why we should accept this unwanted site when many other States could just as easily do their share by bearing the burden of a repository.** Nevadans have and will continue to support nuclear weapons testing in the national interest, but they will "go to the mat" with the federal government over the current biased repository program, should it continue.

DOE'S MISGUIDED IMPLEMENTATION OF THE 1982 ACT

Far more than anyone could have imagined, we have found throughout the process that DOE has repeatedly violated the Act's requirements and ignored its basic concepts. As I will outline below, DOE has implemented the program in total disregard of critical aspects of the Act and has simply often followed its own **predispositions** contrary to and in spite of the Act. Therefore, Nevada and the other affected States and Tribes and other interested parties have had no choice but to take issue frequently with DOE's misguided implementation of the Act. (As you may know, 40-odd lawsuits by various parties now are pending against DOE because of its improper repository program actions.)

Instead of learning from its early mistakes, DOE seems to have become even more determined and more arrogant in its "above or in spite of the law" implementation approach---- as vividly illustrated by its recent attempt to drop the Second Round and to rewrite the Act administratively through the vehicle of Mission Plan Amendments, rather than through the legislative process. **This DOE legacy has therefore given us exactly what any Member of this Committee would expect from such gross mishandling: an unfair, seriously defective program that has no credibility or acceptability.**

Before proceeding to describe our major concerns, I want to stress once again the distinction **this Committee must recognize between the Act, the basic elements of which are quite sound, and DOE's misguided implementation of the Act. As I will explain below, what is needed is not a new approach, but a roll-back of DOE's program and a series of "fine-tuning" amendments to guarantee that Congressional intent is followed when the Act is being implemented.**

It would take much more than the limited time available today to give you a complete and detailed explanation of Nevada's concerns. We have raised them repeatedly in numerous formal comments, letters to DOE, court filings, prior Congressional testimony and various other documents to which the Committee has access for its review. However, at an appropriate time, Nevada officials, including our technical staff and attorneys, would be pleased to discuss each of these points in as much depth as you or the Committee staff desires.

Even if time were available today to provide a detailed account of each of these concerns to Committee Members, that tedious process probably would be less useful in helping you understand our basic positions than providing a more concise overview and summary. I now will try to give you such a summary by highlighting Nevada's major objections and concerns in the following five broad categories and outlining a few key points under each:

(1) **Seriously Flawed Siting Guidelines**

(2) **Denial Of Meaningful State Consultation, Participation And Oversight**

(3) **Scientific And Technical Questions**

(4) **DOE's Biased And Politicized Site Nomination and Selection Process**

(5) **DOE's Illegal Attempt To Cancel The Second-Round Siting Process**

The following chart listing selected key points in each of these general categories offers a helpful framework for considering my subsequent comments concerning these objectives:

HIGHLIGHTS OF NEVADA'S OBJECTIONS AND CONCERNS REGARDING DOE'S HIGH-LEVEL WASTE PROGRAM

Seriously Flawed Siting Guidelines

- Do not contain adequate objective criteria

- Allow DOE to make extremely subjective and biased interpretations throughout the subsequent siting process, thereby undercutting credibility and viability of entire program (i.e. Guidelines are fatally flawed foundation on which program has been built)

- Permitted DOE to confirm characterization of sites pre-selected long before passage of Act [Yucca Mountain and Hanford]

- Contain a structural presumption of suitability allowing DOE to select site by saying site presumed qualified until proven otherwise

- Do not require adequate screening and collection of disqualifying data early in siting process, thereby allowing DOE to rely on lack of data and suitability presumptions to say site not disqualified, and thus DOE's pre-selected choices can be recommended for characterization

- Allow inferior sites to be picked for characterization, so that a relatively poor site appears good by comparison [i.e., encourages unfair comparison and does not ensure that the best/safest available site is selected]

- Driven by unrealistically early time lines in Act, which caused rushed, ill-considered decisions early in process

- Ignored basic statutory requirements, such as national transportation impacts and the effect on the repository of activities on nearby federal lands

- Allow DOE to make a preliminary determination of suitability prior to site characterization, whereas the Act provides that the Secretary certify that three sites are preliminarily suitable for development as a repository after characterization, (i.e., to guarantee that DOE would have three bona fide sites from which to choose the best one for development)

- Issued in violation of procedural and legal regulations

Restrictions On Meaningful State Participation, Consultation And Oversight

- DOE's basic approach has been to make decisions, then advise States

- In essence, DOE refuses to acknowledge the fundamental State oversight role contemplated by the Act and that this is essential for program credibility and acceptability

- DOE generally has prevented States from attending important meetings, from reviewing documents, from receiving necessary or timely information, and from participating in any meaningful consultation and involvement in most key aspects of the decision-making process

- The States have repeatedly had to use the formal information demand process established by section 117 (a) of the Act, and DOE has rarely complied with it

- Although the States have given DOE extensive comments on various program actions, DOE frequently has failed to address adequately or respond to such comments [e.g., the States' comments on the Guidelines and the draft Environmental Assessments]

- DOE has repeatedly illegally refused to grant Nevada's requests for funds to do the scientific studies and other work necessary for the State to carry out its oversight function. Indeed, DOE just last week stonewalled the State again and has only agreed to fund two of the scientific studies planned this year by the State; Nevada therefore will have to go to court once again to enforce its rights under the Act

- The consultation and cooperation process has totally broken down because of DOE's actions (Congress has even had to resort to conditioning DOE's appropriations to try to get the Agency to cooperate)

Scientific and Technical Concerns

- Major features of Yucca Mountain site, which under the Siting Guidelines may disqualify it based on reasonable conservative interpretations of available data, include:
    - fault movement during the postclosure period (e.g., due to earthquakes) that may result in loss of waste isolation;
    - fault movement during the preclosure period that may affect repository construction and operation;
    - groundwater travel time from the repository to the accessible environment that may be as short as 900 years, which does not meet the 1,000-year EPA standard;
    - atomic energy defense activities at the Nevada Test Site that may be in irreconcilable conflict with repository activities; and
    - degradation of groundwater quality and reduction of water quantities available for human consumption or crop irrigation in the Amargosa Valley.

Scientific and Technical Concerns
(Continued)

- Other potentially disqualifying conditions under the Guidelines which Nevada's scientists and technicians have identified:
    - ♦ potential volcanic activity in areas adjoining Yucca Mountain;
    - ♦ a high probability of significant tectonic activity (i.e. earthquakes) at Yucca Mountain during the next 10,000 years;
    - ♦ potential future fault activity;
    - ♦ localized zones of saturation that may imply an absence of free drainage;
    - ♦ the possibility of climate changes that could result in water-table elevation and increased moisture flux;
    - ♦ soluble salts in the unsaturated zone under elevated temperatures that could affect waste canister integrity;
    - ♦ unrealistically high radionuclide retardation resulting in unreasonably low estimates of radionuclide release;
    - ♦ mineralogical changes resulting in volume reduction that could affect preclosure rock stability;
    - ♦ deficiencies in the rock stability of tuff that may require the use of artificial supports for and extensive maintenance of underground openings;
    - ♦ potential for natural resources such as gold or silver that may be attractive for future exploitation; and
    - ♦ DOE's lack of any present right to divert water for repository siting purposes.

Scientific and Technical Concerns (Continued)

- Technical concerns noted by the NRC staff as areas which DOE has inadequately addressed or omitted completely from its final Environmental Assessment of Yucca Mountain and about which DOE has drawn "overly optimistic" conclusions:
    - active fault movement and reactivation of prior faulting by nuclear weapons testing;
    - hydrothermal activity affecting the waste isolation capability of the site or any containers used there;
    - the possibility of valuable natural resources;
    - reliance on highly uncertain geochemical properties to retard radionuclide transport to the accessible environment;
    - DOE's questionable calculations of groundwater travel time through the unsaturated zone based on very limited models and single values for key hydrologic parameters; and
    - reliance on an engineered barrier system, the waste package lifetime of which may be greatly overestimated.
- Unresolved generic concerns with volcanic tuff as a suitable geologic medium for high-level waste isolation (first raised by NAS in 1979 with the caution that they should be resolved before major resources are committed to the development of Yucca Mountain as a potential site):
    - the seismic and volcanic stability of tuff;
    - the significant lateral variations in thickness and character of tuff;
    - the fault characteristics of tuff; and
    - the stability of tuff in the presence of hot electrolyte solutions.

Scientific and Technical Concerns
(Continued)

- Lack of a quality assurance program has rendered DOE's technical information on the sites suspect:
    - "Stop work" orders have been in effect at Yucca Mountain and Hanford while DOE develops a Quality Assurance Program; and
    - Much of the data gathered cannot be verified and is of questionable validity. Yet, such data was relied on in the EA's and in making the site characterization recommendation. This makes such decisions questionable; moreover, such data may not be acceptable for NRC licensing purposes later on.
- Inherent Conflicts Of DOE And DOE contractors under present management structure:
    - DOE has conflicting missions of conducting defense programs that produce wastes and of finding a safe disposal facility for such wastes (as well as commercial HLW).
    - Many DOE contractors, who in effect compete in a race to declare their sites to be suitable for characterization and eventual repository construction, have a major economic stake in site not being disqualified.

DOE's Biased and Unfair, Politicized First-Round Site Ranking and Selection Process

- **An Investigation of DOE's First-Round selection process by the House Energy and Commerce and Interior Subcommittees clearly documents DOE's political manipulation and gross bias resulting in the selection of Yucca Mountain and Hanford.**

  ◆ **As the Subcommittee Chairmen and other Members informed DOE Secretary Herrington:**

  ". . . it appears that DOE manipulated data, weighting factors and analytic techniques to arrive at a pre-determined set of sites. In addition, DOE ignored findings and recommendations of its own technical staff and the National Academy of Sciences (NAS) and misconstrued the Nuclear Waste Policy Act.

  ". . . we have found conclusive evidence, in many cases supplied by DOE's own internal documents, which lead us to only one possible conclusion: DOE distorted and disregarded its own scientific analysis . . . .

  "A review of internal DOE documents strongly suggests that DOE had decided on the three sites prior to completion of the methodology report, and then tailored the methodology report to justify the final decision.

  ". . . DOE suppressed information [unfavorable to its position] . . . .

  "In conclusion . . . DOE's recommendation decision is seriously flawed and totally unsupportable."

DOE's Biased and Unfair, Politicized First-Round Site Ranking and Selection Process (Continued)

- The Subcommittees' Report documents such abuses and political manipulations by DOE in numerous instances, and shows, for example:
    - ◆ "Rock diversity" criterion was considered an overriding criterion, causing Yucca Mountain and Hanford to be essentially preselected, because Yucca Mountain was the only tuff site and Hanford the only basalt site under consideration.
    - ◆ DOE officials assigned monetary values in site rankings to socioeconomic, esthetic, and "environmental" factors in such a manner as to weight such concerns more heavily than health and safety considerations. (Hanford and Yucca Mountain, as the same DOE officials well knew from their work on the draft Environmental Assessments, would thus score better than the salt sites.)
    - ◆ Repository cost and transportation cost were totally ignored, notwithstanding the Act's clear statutory requirement that these factors be considered.
- Scrutiny of DOE's First-Round decision-making documents reveal that DOE's cost estimates for each site under consideration were not based upon equivalent data:
    - ◆ Cost data for the salt sites was updated as of February, 1986, whereas the cost data used for Yucca Mountain was several years old; and
    - ◆ Costs for the same basic items were radically different at the nominated sites.

DOE's Biased and Unfair, Politicized First-Round Site Ranking and Selection Process (Continued)

- The Subcommittees' findings are supported by earlier NAS criticisms of the MUA:
    - 1985 NAS review of the ranking methodology concluded:
        - that the MUA technique was "appropriate," but that the MUA "must be implemented correctly and accurately to be useful and credible" (DOE, of course, failed to so implement it); and
        - that DOE should not use its own technical experts to assess performance of postclosure factors at each site, but rather should use outside experts, to enhance the credibility of DOE's work (DOE, of course, did not follow this NAS recommendation).
    - 1986 limited NAS review of the "application of the methodology" again criticized DOE:
        - for failing to involve outside groups of experts in the development of value judgments for preclosure analysis;
        - for failing to consider differences among sites in pathways from the EPA accessible environment to the biosphere; and
        - for failing to include outside panels of experts in the site-ranking process beyond the NAS's own limited review.
    - NAS concluded "the lack of external input in technical and value judgments could raise concerns about bias."

DOE'S Illegal Attempt To Cancel The Second Round

- Second-Round cancellation decision shows DOE's blatant politicization of the program. (Even DOE's own General Counsel has admitted that the May 28, 1986 decision was illegal.)

- DOE's incredible recent attempt to assume legislative powers by maintaining that it could change the Act and make its improper Second-Round decision and other actions legal by administrative changes in its Mission Plan without specific Congressional legislative action vividly demonstrates DOE's disregard of the Act's requirements.

- These Second-Round actions, while perhaps shocking to Congress and to parties not accustomed to DOE's approach in this program, merely illustrate the typical DOE attitudes and actions the affected States and Tribes have experienced from the program's inception.

COMMENTS ON STATE OBJECTIONS AND CONCERNS

(1) Seriously Flawed Siting Guidelines

DOE turned down the "wrong track" at the very outset of this program. It is essential to understand that the Siting Guidelines, which serve as the basic foundation and framework for implementing the Act, are fatally flawed in a number of ways, and this has undercut the entire program.

- Because the program is based on the unacceptable Guidelines, its various subsequent key decisions (e.g., the site nominations) also are unacceptable, and therefore the only way to correct these problems is to roll-back subsequent decisions, re-issue proper Guidelines, and then re-implement the Act correctly.

- When these Guidelines were being developed, Nevada and other States strongly urged DOE to adopt Guidelines that would be objective and that would ensure that the Act would be implemented on a sound technical and scientific basis.

- DOE in essence rejected our suggestions and issued Guidelines that allow it to make very subjective siting determinations and to ratify its earlier planned siting activities as if the 1982 Act had never been passed (i.e., to carry out its pre-determinations).

I must point out that not only have the States attacked DOE's Guidelines, but other parties also have been highly critical. To illustrate this fact, I am attaching informative and well-reasoned comments on the Guidelines filed by the Environmental Policy Institute (EPI). EPI's comments were also rejected, and this entire Guideline issue now is the subject of major litigation.

Subjective Standards Allowing Confirmation Of Pre-Selected Sites

Nevada and Washington, which had been under consideration for a repository site long prior to the Act, have from the start of the program argued that the Guidelines should not allow DOE freely to confirm DOE's obvious predisposition to select these sites for characterization. Instead, we argued that the Guidelines should ensure that only the best available sites should be selected for characterization, and that this could only be determined after a careful, objective, and impartial comparative study of potentially acceptable sites. DOE rejected our views and proceeded to follow its very subjective approach and favor its pre-selected sites.

DOE's highly subjective Guidelines contain various features that in effect guarantee that DOE can disregard the Act's intended siting process and largely continue with its earlier characterization efforts.

- For example, the Guidelines contain a presumption that a site is qualified until there is data that would clearly disqualify the site. This presumption works in tandem with another Guideline concept, that little disqualifying data must be gathered early in the siting process.
- Therefore, DOE has been able to conclude, on the basis of very limited data, that a site is potentially acceptable because it has no disqualifying data, and thus proceed to select the site for characterization.

The Guidelines' failure to require adequate initial screening and to focus more on the collection of potentially disqualifying data early in the siting process also allows inferior sites to be picked for characterization.

- This makes relatively poor sites appear good by comparison.
- Such a distorted process obviously is unfair and clearly does not ensure that the best or safest available site is selected on the basis of valid comparisons.

Disregard Of Various Statutory Requirements

The Guidelines also deviate from the Act's express requirements:

- DOE totally ignored important areas, such as national transportation impacts and the possible effect on repository construction and operation of activities occurring on nearby federal lands, in the site selection criteria.
- In addition to these substantive omissions, the Guidelines are also procedurally and legally deficient:
    - The Guidelines were promulgated without observing procedures required by the Administrative Procedure Act and other applicable statutes (5 U.S.C. § 706 (2)(D) (1982) (APA); 42 U.S.C. §§ 7191 (a), (b), (c) (1982) (Department of Energy Act, administrative procedures)). These procedural shortcomings are not mere technicalities. Rather, DOE issued various substantially revised versions of the Guidelines without providing an opportunity for full public comment on the revisions.

- For instance, the public never had an opportunity to review and comment upon the preamble statement to the Guidelines, which contains critical policy decisions concerning the site selection process. By way of example, the preamble includes a statement by the Secretary of DOE that, in his view, the Act limits the selection of potentially acceptable First-Round sites to those that were under study at the time of enactment. Such a statement has no express foundation in the statute, and precluded screening for better sites which probably were available.

- **Finally, the Guidelines inappropriately permit DOE to make a "preliminary determination of suitability" at the time of the recommendation of three sites for characterization, rather than after site characterization as is provided in §114(f) of the Act.**

  - The Act states ". . . the Secretary shall consider as alternate sites for the first repository to be developed . . . 3 candidate sites with respect to which (1) site characterization has been completed . . . and (2) the Secretary has made a preliminary determination that such sites are suitable for development as repositories. . . ."

  - Congress must have included this section to insure that at the end of site characterization, DOE would have three bona fide sites from which to select one for repository development.

  - Such a requirement is critical to ensure that DOE cannot select a preferred site for characterization together with two less suitable sites in order that the preferred site would be the only site available or at least the one certain to be selected after characterization.

Time Line Driven

Mr. Chairman, although we do think the 1982 Act is basically sound, I would note one special problem in its provisions that contributed to DOE's adoption of such flawed Guidelines. I think it has now been generally recognized by most informed parties that the Act imposed arbitrary and unrealistic time limits for DOE to complete this decisional process, particularly in the early stages. These unreasonable time requirements undoubtedly contributed to DOE's rush to complete the Siting Guidelines and other important initial decisions without adequately appreciating or considering their impact.

Revised Guidelines Essential

In any case, Nevada and the other States have maintained from the very start that DOE's Siting Guidelines are illegal and that they put the program on a fatally flawed foundation. Unfortunately, because the Guidelines have been the basis for all the subsequent major siting decisions ---- site screening, site nominations, recommendation of sites for characterization, and the preparation of site characterization plans prior to the sinking of shafts ---- they have undercut the credibility and effectiveness of the entire program. One of the most important "mid-course corrections" that must be made is to revise these Guidelines to reflect the States' earlier comments and the Act's requirements. This is essential in order to get the program back on track and keep it there.

(2) Restrictions on Meaningful State Participation, Consultation and Oversight

As this Committee is well aware, Congress gave the States an important and indeed central role in overseeing this program. You wisely recognized in drafting the Act that active and substantial State participation and oversight would be essential in order for this siting process to have credibility and acceptability. DOE, on the other hand, has chosen to seek to implement the program on its own terms and with a strong sense of mission, so that DOE's field offices and their respective contractors in effect "race" to see who can site a repository the most quickly. (This competitive race approach is candidly admitted in the attached recent DOE Request for Proposals (RFP) for a coordinating central project contractor.) Such a mission-driven, "race-to-the-finish" approach has conflicted with, and unfortunately been allowed to override, the requirement for full and meaningful State participation.

General Denial of State and Tribal Oversight Role

DOE has basically refused to acknowledge the States' and Tribes' fundamental oversight role contemplated by the Act. Its general approach has been to make decisions and then advise us of those decisions. Despite our submission to DOE of extensive comments on various program actions, such as DOE's draft Environmental Assessments, DOE frequently has discounted or totally disregarded such comments and plowed ahead with its own prior determinations. It has denied States and Tribes the opportunity to attend important meetings, review documents, receive complete information in a timely manner, and has generally prevented participation, consultation and involvement in any real, meaningful way in the decision-making process. The States and Tribes also have repeatedly had to resort to the formal information demand process established by section 117(a) of the Act, because DOE has simply refused to act cooperatively in a more informal manner.

Such DOE actions in preventing meaningful oversight have naturally prevented the public from developing trust and confidence in the program. In fact, it has created just the opposite public reaction.

DOE's Illegal Withholding of State Funding

Another important aspect of this problem concerns DOE's funding of State-sponsored, program-related activities. As this Committee is aware, DOE has repeatedly refused to grant our funding requests in a timely manner, forcing us to sue DOE. The Ninth Circuit Court of Appeals upheld the State's right under the Act to DOE funding for independent testing and evaluation of certain scientific and technical matters. In reaching this decision, the Court stated:

> *"By minimizing independent collection of primary data, and then restricting State tests of primary data that DOE has collected, the [DOE finanacial assistance] guidelines eviscerate the independent oversight role that Congress envisioned for the States. Permitting DOE to guard the chicken coop alone would violate the statutory finding that State participation and oversight of DOE is essential in order to promote public confidence in the safety of disposal of nuclear waste."*

Despite the Court's ruling, we still are experiencing continued battles with DOE over our funding, and this, of course, has delayed and limited our testing and data collection program. We apparently may have to go to court once again to enforce our rights under the Act.

(3) Scientific and Technical Concerns

Like most Members of Congress, I am not a scientist and therefore find it difficult to attempt personally to make factual determinations on most scientific and technical questions. However, as an elected official, I am keenly aware of the importance of ensuring that significant scientific and technical concerns are adequately addressed. This is especially true with regard to the siting of a high-level waste repository, which involves long-term critical health and safety questions and an unprecedented engineering and scientific evaluation to be absolutely certain that these highly dangerous wastes, which remain deadly for thousands of years, are totally contained away from man's accessible environment essentially forever.

As I will highlight below, Nevada has a number of scientific and technical concerns with regard to the suitability of the Yucca Mountain site as a repository. Obviously, such questions would have to be satisfactorily resolved before anyone could know whether the Nevada site would be qualified for NRC licensing approval. **However, even if we were to assume that after detailed study, the Yucca Mountain site would appear to be qualified (i.e.---that it could be a "safe" site), I want to make it absolutely clear that we would still never be willing to accept a repository under the present DOE program. We believe that there are in fact many good, technically suitable sites throughout the United States. We will never accept being named under the present flawed, unsupportable, politicized process developed in gross disregard of fundamental principles of fairness and of the Act's requirements.**

Possible Disqualifying Conditions

As you will note from the preceding chart outlining our technical and scientific concerns, Nevada's scientists and technicians have concluded that, on the basis of a reasonable conservative interpretation of the available data on Yucca Mountain, five disqualifying conditions from DOE's Siting Guidelines may be present. These disqualifying conditions relate to postclosure tectonics, preclosure tectonics, geohydrology, offsite installations and operations and socioeconomic impacts caused by water degradation. A more detailed explanation of these disqualifying features of the site is appended to this testimony.

Additional State Technical Concerns

In addition to these disqualifying features, Nevada's technicians and scientists have identified other areas of major concern, in which available evidence about the site suggests that positive findings cannot be made at the present time, as DOE has done in the Environmental Assessment, and that possible disqualifying conditions are present. Such concerns include **volcanic activity, tectonic activity, fault activity, geohydrology, climate changes, geochemistry, radionuclide retardation, mineral stability, rock stability, natural resources, and water rights.**

Our top technical expert has met recently with your Committee staff to describe these technical concerns in more detail. Although I will leave it to our experts to explain further these potentially disqualifying features of the Yucca Mountain site, I would like to comment briefly on the scope and significance of these concerns:

- DOE's analysis was based upon the Siting Guidelines which we, and many other parties, have challenged as being inadequate and illegal.

- But even if you assume that the Guidelines are valid, our review of DOE's technical and scientific work (admittedly limited because of DOE's constant stonewalling in funding our requests for studies) has shown that **DOE has simply failed to address major technical areas, disregarded conflicting data or avoided collecting disqualifying data, and failed to consider a range of likely or possible interpretations of actual data and data produced by modeling.**

- **Such unscientific and clearly biased methods have led DOE to make overly favorable or optimistic conclusions with respect to the suitability of Yucca Mountain.**

- **The only conclusion DOE reasonably ought to be able to draw from its studies to date, if they can be considered reliable at all, is that potentially disqualifying conditions at the site cannot be ruled out at this time and in a number of instances may well be present.**

I must emphasize that we have repeatedly raised our technical concerns with DOE. The fact that DOE refuses to give most of these concerns serious consideration is very alarming. This approach of disregarding our concerns instead of making a good faith attempt to resolve them is typical of DOE's whole approach to State participation in this program. Instead of calming our fears, they arrogantly disregard and therefore increase them.

NRC And NAS Questions

The NRC staff recently raised concerns very similar to some of those noted by the State, such as that DOE has drawn over-optimistic conclusions with respect to the suitability of the Yucca Mountain site.

- Other serious open questions identified by the NRC staff include: inadequacies and even omissions in DOE's work on faults and fault reactivation due to nuclear testing, hydrothermal activity, the presence of natural resources, over-reliance on geochemical properties, groundwater travel time calculations, and over-reliance on engineered barrier systems.

- There are thus many unresolved issues with regard to the technical suitability of Yucca Mountain. Many generic questions about volcanic tuff as an appropriate medium for long-term isolation of these deadly wastes were identified early on by the NAS, yet they still remain unanswered today. DOE's record gives us no confidence that it will ever be able to resolve these questions in a scientifically acceptable manner.

While the NRC, which ultimately will have to license the repository site, naturally cannot make a judgment on the limited data available at this point as to whether the Nevada or other sites will be disqualifed, the NRC and its technical staff certainly have indicated that there are substantial questions that must be answered before the Nevada site could be considered acceptable. **Therefore, those who think that Yucca Mountain is clearly qualified are sadly mistaken.**

Lack Of Quality Assurance Controls

Finally, you should be aware of the fact that little of the technical information that DOE and its contractors have gathered and which DOE used as the basis for its May 28, 1986, decision to recommend Yucca Mountain was obtained pursuant to a quality assurance program. In fact, "stop work" orders have been currently in effect at the Nevada site due to this problem. As the GAO has recently pointed out,

> **"[t]he lack of quality control has the potential to cause considerable problems. For example, Nevada DOE officials told us that the Geological Survey failed to properly document or maintain documentation on the core samples obtained from the boreholes near the Yucca Mountain site. As a result, the Project Office may be unable to prove that 'this core came from this hole at this depth,' which means that tests performed on that core sample may not be able to be validated, and, if not, might not be accepted by the NRC in the licensing process." GAO, Status of DOE's Nuclear Waste Site Characterization Activities (March 1987).**

The quality assurance deficiencies in DOE's technical information, combined with DOE's overly optimistic analysis of that technical information, and its many other questionable program practices, suggest that DOE may never be able to carry its burden of proof in licensing the Yucca Mountain site, or indeed any of the other recommended sites.

(4) DOE's Biased and Politicized Site Nomination and Selection Process

The process by which DOE recommended the three sites for characterization demonstrates quite clearly how DOE has misimplemented the Act and politicized its decision-making in order to justify preselection of Yucca Mountain and Hanford. In December of 1984, DOE issued draft Environmental Assessments in which it tentatively recommended Yucca Mountain, Hanford, and Deaf Smith. These recommendations supposedly were based upon (1) the earlier noted fatally flawed Siting Guidelines; (2) EA's which have been shown to be grossly inadequate and riddled with questionable data and unsound conclusions; and (3) three proposed ranking methodologies, various aspects of which were sharply criticized by many parties, including the National Academy of Sciences (NAS).

MUA - The Bureaucrat's Cover Mechanism

DOE then developed the Multiattribute Utility Analysis (MUA) ranking methodology and purported to apply this new methodology to the available data on the five nominated sites. This time, DOE characterized the MUA ranking methodology as a "decision-aiding" tool. This enabled DOE to recommend the same three sites for characterization, even though the MUA, if followed strictly, would have required DOE to recommend different sites.

We were denied any opportunity to comment on this MUA, which we believe has many questionable elements even if it had been properly followed. (To many of us, even the name "Multiattribute Utility Analysis" suggests it is mainly a bureaucrat's device to get his way.)

House Investigation's Discovery of Abuses

After the May 28, 1986, site recommendation decision, the staffs of the House Energy and Commerce and Interior Subcommittees performed an investigation of DOE's implementation of the MUA. Their report, issued on October 21, 1986, documents DOE's substantial bias in favor of the selection of Yucca Mountain and Hanford and its blatant politicization of the process. In transmitting the report to Secretary Herrington, the Subcommittee Chairmen and other Members asked the Secretary to initiate a review of the site selection process carried out under the MUA, on the basis of **"conclusive evidence, in many cases supplied by DOE's own internal documents, which leads us to only one possible conclusion: DOE distorted and disregarded its own scientific analysis."**

Preselection Confirmed

The Subcommittee Report demonstrates clearly DOE's gross manipulation of the MUA and other criteria deliberately excluded from the MUA, such as rock diversity, to justify its preselection of Yucca Mountain and Hanford: **"A review of internal DOE documents strongly suggests that DOE had decided on the three sites prior to completion of the methodology report, and then tailored the methodology report to justify the final decision."**

- DOE failed to include the criterion of "rock diversity" in the MUA, as its own consultants had earlier recommended.

- Instead, DOE employed "rock diversity" as an overriding criterion. Under this approach, the preselection of Yucca Mountain and Hanford was confirmed, because Yucca Mountain was the only tuff site and Hanford the only basalt site under consideration.

Biased Value Judgments

The Report also documents how DOE's use of its own technical staff to make value judgments and tradeoffs resulted in substantial bias in favor of selection of Yucca Mountain and Hanford:

- For example, an expert in multiattribute utility analysis asked DOE officials to develop monetary values for various socioeconomic, esthetic, and environmental factors.
- The DOE officials weighted these factors more heavily than health and safety considerations.
- Yucca Mountain and Hanford, as these same DOE officials well knew from their work on the draft Environmental Assessments, would score better than the salt sites on socioeconomic and environmental factors, but worse than the salt sites on health and safety factors.
- As a result, Yucca Mountain and Hanford ranked higher than they should have had these factors been more realistically weighted.

Repository And Transportation Costs Excluded

Finally, the Subcommittee study shows that DOE completely ignored repository and transportation costs in recommending the three sites for characterization. It did so notwithstanding the Act's clear statutory requirement that these factors be considered.

Our own limited review of certain DOE documents the House Subcommittees used as the basis for their Report reveals other interesting phenomena about the cost figures DOE employed.

- It seems that DOE's cost estimates for each site under consideration were not based upon equivalent data.
- The cost estimates for the salt sites were updated as of February, 1986. Until that time, DOE had hypothesized that the cost of developing a repository at the salt

sites would be roughly equivalent to the cost estimates DOE had developed much earlier for Yucca Mountain.

- Nevertheless, DOE apparently continued to use the same older cost figures for Yucca Mountain.

- Naturally, the figures for Yucca Mountain would be less than the figures used for the salt sites. Thus, cost comparisons were apparently not made on the basis of equivalent data.

DOE's Clever Misuse of NAS

Early on, the NAS recognized this potential for bias in the MUA process in its 1985 study of the ranking methodology. NAS concluded that the MUA technique could be an "appropriate device," but warned that the MUA "must be implemented correctly and accurately to be useful and credible." The NAS also recommended that DOE not use its own technical experts to assess performance of post-closure factors at each site, but rather use outside experts, to enhance the credibility of DOE's work. Of course, DOE did not follow the NAS's advice.

In 1986 DOE then asked the NAS to conduct a second review of the "application of the methodology." NAS did so, only on a very limited basis, and examined only DOE's post-closure rankings.

- This very narrow review excluded DOE's rankings on preclosure factors, rankings combining postclosure and preclosure factors using the decision-aiding methodology, and the final recommendation of sites for characterization.

- The NAS again criticized DOE for failing to involve outside groups of experts in the development of value judgments for preclosure analysis, for failing to consider differences among sites in pathways from the EPA accessible environment to the biosphere, and for failing to include outside panels of experts in the site-ranking process beyond the NAS's own limited reviews.

- Because of these failures, the NAS concluded, "the lack of external input in technical and value judgments could raise concerns about bias."

Notwithstanding these serious criticisms and recognized shortcomings with the methodology, DOE has sought in effect to create the perception that its MUA process had been blessed fully by NAS.

Guaranteed Result

In conclusion, DOE's manipulative and selective application of the MUA, together with the omission of key considerations such as rock diversity from the MUA, enabled the agency to recommend the same three sites it had originally tentatively recommended in December of 1984 and actually selected for characterization long before. **We believe that Congress should study closely DOE's decision documents on the MUA to see what other abuses the agency may have wrought on this process.**

(5) DOE's Illegal Attempt to Cancel the Second-Round Siting Process

Is DOE Above The Law?

As you are all well aware, the same day DOE announced its decision to recommend Yucca Mountain, Hanford, and Deaf Smith for site characterization, it also announced its politically motivated intention to cancel the Second-Round site selection process, in clear violation of the Act (as DOE's own General Counsel later admitted).

- DOE's illegal Second-Round decision graphically illustrates what we First-Round States have been saying all along about DOE's "never mind the law" approach to implementation of the 1982 Act.

Whatever credibility DOE might have had with the Congress before the May 28 announcement should have been destroyed by this action. But, as if that illegal action were not enough, DOE then exhibited its arrogance of the law and of the Congress by contending that it could amend the Act through its presentation to Congress of the "Mission Plan Amendments" document, even if Congress did not then act to change the statute. We were gratified to see that Members of this Committee were able to enlighten DOE on the constitutional principles of separation of powers in your oversight hearings on this issue in February.

Destruction Of Regional Balance

Nevertheless, serious damage has been done, and DOE has upset the delicate East/West balance that was a fundamental provision of the 1982 Act. It will take considerable statesmanship on the part of all Members of Congress to prevent attempts to change such basic principles, because such attempts will only hasten the total collapse of the repository program.

BASIC CONGRESSIONAL OPTIONS FOR DEALING WITH THE PROBLEMS OF THE DOE HLW PROGRAM

How might Congress deal with these many serious problems and concerns that have been repeatedly raised by the affected States and Tribes and other responsible parties? Your natural first reaction might be to think that there are countless ways of addressing these problems. However, after having given this issue considerable thought, I believe that there are really only a few basic options. Let me outline generally what they appear to be by utilizing the following chart:

BASIC LEGISLATIVE OPTIONS CONCERNING DOE'S HLW PROGRAM

- Option # 1
  - DO NOTHING
    - Disregard Objections of Environmental Groups, States And Tribes, And Other Critics
    - Disregard DOE's Proposal In Effect To Cancel Second-Round Siting Process
    - Avoid Or Delay Dealing With The Program's Problems
    - Leave Issues To Be Resolved By Litigation (40-Odd Suits Already Pending) Or By Subsequent Congressional Action After Program Crashes Further
- Option # 2
  - ESTABLISH ALTERNATIVE SITING PROCESS
    - Leave Act In Place With DOE's Defective Implementation
    - Create Parallel Alternative Approach Based On Enticing A State To Take Repository Or MRS For A Significant Sum Of Money ["Let's Make A Deal" or "Name Your Price" Concept]
    - Limit Delays And Litigation By Requiring State To Give Up Act's Procedural And Other Protections, To Assist In Licensing Effort, To Forego Various Environmental Safeguards, Etc.
    - Assume States' Objections Have Largely Been Political And That Some State Would Accept Such A Deal If The Price Is Right

- OPTION # 3
  - SCRAP THE 1982 ACT AND REPLACE WITH DIFFERENT APPROACH
    - Alternative # 1
      - ◆ Revise Siting Requirements To Try To Simply Politically Force A State To Take Site
      - ◆ Drop The Act's Concepts Of Fairness, Credibility, Selection Of Best/Safest Site Available, State Consultation and Oversight, Etc.
      - ◆ State That Process Is Too Costly, Too Much Delay
      - ◆ Disregard Past Objections Of States
      - ◆ Try To Isolate A Single State Politically By Telling Other States They Are Not Being Considered
      - ◆ Claim Any State Objections Are Political, That Repository Will Be Safe (And Hope It Will Be)
    - Alternative # 2
      - ◆ Accept Or Ratify DOE's Actions, Especially Its Second-Round Decision
      - ◆ Drop The Act's Concepts Of Fairness, Credibility, Selection Of Best/Safest Site Available, State Consultation and Oversight, Etc.
      - ◆ Disregard Merits Of States' Objections
      - ◆ Seek Political Support By Nurturing Second-Round States' "Nimbyism"
      - ◆ Essentially Enact DOE's Mission Plan Amendments And Hope Program Will Not Crash Through DOE's Incompetence, Litigation Or Sites Being Disqualified

- OPTION #4
  - SCRAP THE REPOSITORY CONCEPT AND SHIFT TO INTERIM STORAGE APPOACH
    - ♦ Adopt Interim Storage While Considering Or Awaiting Alternative Technologies
    - ♦ Conclude DOE's Implementation Has So Tainted Geologic Repository Concept That It Is Not Viable Approach At This Time
    - ♦ Note That Storage Generally Can Be Done Safely For Extended Period Of Time While Permanent Solution Is Developed (Approach Essentially Adopted by Some European Countries)
    - ♦ Possibly Employ Various Storage Concepts:
      - On-Site, Dry Cask Storage (Now A Proven And Presently Utilized Technology)
      - MRS Or Regional MRS's (To Limit Transportation Risks & Give Regional Equity)
      - Federal Storage For DOD Wastes And For Utilities That Lack On-Site Storage Capacity
    - ♦ Special Provisions To Compensate Utilities For Handling Waste, Etc.
    - ♦ Greatly Increase Investigation Of Alternative Technologies
      - Subsea Bed Disposal
      - Reprocessing
      - Etc.

- OPTION #5
  - KEEP 1982 ACT BUT MAKE "MID-COURSE CORRECTIONS"

    [I.e., Fine-Tuning Amendments Such As Congress Enacted In Low-Level Act In 1985]

  - Alternative # 1
    - ◆ Establish Independent, Non-Partisan Repository Investigation Commission [like Rogers or Tower Commissions], And
    - ◆ Impose A Moratorium On Site-Specific Work, With A Roll-Back Of Many DOE First-Round Decisions
      - Better To Resolve Problems Now And Get Back On Track—This Will Be Faster And Cheaper In Long Run
      - Promptly Study The Program's Problems By Utilizing A Highly Credible, Non-Political Commission
      - Obtain Sound Factual Basis And Unbiased Recommendations For Corrective Amendments
      - Commission's Work Can Be Done Quickly, Thus Causing Only Minimal Delay In Siting Work
      - Commission Approach More Suited To Task Than Normal Congressional Committee Process Alone And Its Recommendations Much Less Subject To Challenge As Being Politically Motivated
      - Moratorium Avoids Wasting Additional Ratepayers' Money
      - Roll-Back Of Various Unacceptable Program Decisions Defuses States' Hostilities And Is Needed Because States Would Never Accept Those DOE Actions Due To DOE's Past Bias, Etc.
      - Generic Repository Work Could Continue, Thereby Avoiding Additional Delays

Alternative # 2

- Proceed With Amendments Without Utilizing Independent Commission For Factual Investigation
  - Concept Would Be To Return To Track Intended By 1982 Act [safe site, fairness, credibility, active state oversight, etc. leading to acceptability]
  - Committee Would In Essence Conclude It's Clear That DOE Has Gotten Off Track And That Reimplementation Of Key Actions With Additional Safeguards And Oversight Will Be Required To Meet The Act's Goals
  - Necessary Amendments And Related Actions Might Include, For Example:
    - Dropping recommendation of Nevada, Texas and Washington and earlier site nominations due to bias and flaws of DOE's earlier program;
    - Adopting realistic time lines so that key program decisions are not driven and biased by artificial and unreasonable deadlines;
    - Withdrawing the Guidelines, the Environmental Assessments (EA's), and the Multiattribute Utility Analysis (MUA);
    - Issuing new, revised, unbiased Guidelines, MUA, and EA's that are objective, scientifically grounded, not subject to undue agency manipulation or to allowing an agency to follow its predispositions irrespective of the Act, etc.;
    - Screening for additional potentially acceptable sites in conformance with the revised Siting Guidelines;
    - Requiring a more phased screening approach to site characterization whereby more information concerning whether a site is likely to be disqualified is obtained earlier in the siting process, thereby ensuring better potential sites will be characterized;

- Ensuring greater and earlier involvement and concurrence by NRC and EPA in the siting program;

- Guaranteeing greater State and Tribal rights of active participation, consultation and oversight in the process and providing the funding necessary for such involvement;

- Creation of an independent and ongoing oversight and dispute resolution board to monitor, and where necessary redirect, DOE's implementation of the program;

- Greater economic incentives to the host states;

- New procedures to limit conflicts of interest that may arise because DOE contractors involved in site evaluation and recommendation may also benefit greatly if the site they are evaluating is characterized;

- Reorganization of the DOE Program Office and appointment of new personnel to key policy positions (and possibly shifting the program to another agency).

As the preceding chart indicates, there essentially are five basic Congressional options concerning DOE's HLW program:

(1) **Do Nothing;**

(2) **Establish An Alternative Siting Process;**

(3) **Scrap The 1982 Act And Replace It With A Different Siting Approach;**

(4) **Scrap The Permanent Repository Concept**

And Shift To A Long-Term Storage Approach; Or

(5) **Retain The Act But Make "Mid-Course Corrections"**

(As Congress Did In The 1985 Low-Level Waste Act).

As I said early on in my testimony, Nevada, and I believe the other affected States and Tribes, favor pursuing the fifth option of making "mid-course corrections" to the Act. However, if this cannot be done, then we would find the fourth option, which would involve shifting to a storage concept, to be the most appealing and workable approach. I now will explain why retaining the Act, while making certain "fine-tuning" amendments, appears to be the preferred and most workable and acceptable approach.

(1) "DOING NOTHING" IS NOT AN APPROPRIATE OPTION

It should now be beyond question that DOE's program is totally off-track and in serious trouble. It simply would be irresponsible for Congress to fail to deal with these problems by doing nothing, letting them continue to get worse, and leaving the issues to be decided through the lengthy judicial process which now involves scores of lawsuits, or in later years by legislative action.

To put off dealing with the problems would only delay, or could quite possibly even preclude, the opening of a geologic repository, and clearly would result in hundreds of millions of ratepayers' dollars being wasted. I trust that given this Committee's leadership and strong interest in this issue, you will agree that this "do nothing" approach is not a viable option.

(2) THE ALTERNATIVE SITING PROCESS OPTION

An interesting option of leaving the present Act in place, but establishing an alternative siting process has been suggested recently by Senators Johnston and McClure. This approach, contained in S. 839, would essentially provide a significant incentive payment to any State that volunteers to host a repository or an MRS. In return for receiving this money, the host State basically would have to forego its rights and protections under the 1982 Act and various other laws, and would have to cooperate in expediting the siting effort. (A more detailed explanation and our preliminary analysis concerning this bill are attached to my testimony.)

Nevada's "Not Biting"

This legislation shows that this Committee's leadership recognizes that there are very serious problems with DOE's present program. I must applaud its sponsors for their creativity and initiative in trying to find a way to do something about these problems. However, I must candidly tell you that we cannot endorse this legislation. Perhaps some other State is ready to "bite" at the monetary bait that is offered, but I can assure you that Nevada is not.

Money Can Not Buy Public Trust

I would be very surprised if any State would show real interest in pursuing this particular alternative concept because its economic incentives could never buy the public trust and confidence that is essential for a site to be accepted or tolerated. This is particularly the case because the bill gives a State very few legal protections after having agreed to accept the incentive payments. For example, if DOE performs its site characterization as badly as it did the Environmental Assessments, a State's right to seek judicial review of DOE's actions would be restricted. This would only greatly increase citizens' concerns and outcries.

We believe that the only way any State could ever **accept** a site -- which as far as I am aware, not a single State really wants -- is for that State to be selected on the basis of having the best available site after having gone through a site selection process that fairly compares other potential sites. The selection process must be highly credible and the general public and public officials must be convinced that the site is truly safe. These concepts, which are the underlying basis of the 1982 Act, are especially important in a State like Nevada where public trust in the fairness of the present process and in the safety of the site has been destroyed. Our experience shows what happens to public confidence if the Act's safeguards are not maintained.

Additional Compensation Is A Valuable Concept

On the other hand, I think that the central concept of S. 839, that any State hosting a repository should receive substantial special compensation, is quite correct. Senators Johnston and McClure have made a very important contribution by recognizing the need for such additional compensation. I would urge the Committee to include this concept when it reports a broader bill that will contain "fine-tuning" amendments to the present Act. Such incentive payments should be available only after the site characterization process has produced three suitable sites. They may help a qualified State volunteer to accept the site. In addition, let me urge the Committee also to give any State that ultimately hosts a repository or MRS special compensation even if the State does not volunteer for this task. The Act simply does not adequately compensate a State for bearing such a burden.

(3) SCRAPPING THE 1982 ACT IS A BAD OPTION

Various observers now are so frustrated with DOE's program that they are suggesting dropping the Act. Some Members from Eastern States apparently have interest in one such approach, which in effect would scrap the Act by ratifying many of DOE's errors and violations of the Act, by adopting DOE's proposed Mission Plan Amendments. This would be in disregard of the well documented objections of the States to virtually all of DOE's major implementation actions. In particular, this approach would undercut the Act's fundamental concepts of fairness and credibility and would terminate the Second Repository, thereby abrogating a basic part of the compromise that led to the 1982 Act's passage.

Do Eastern States Want to Renegotiate?

I can understand why many Eastern States might want to be "off the hook" when it comes to being responsible for the very large quantities of high-level waste generated by nuclear utilities within their borders. However, Western States like Nevada are not interested in the one-sided deal some are now proposing!

Perhaps we Westerners should start asking again:

- Why should there be a repository in the West when the majority of the waste is generated in the East and a safe site clearly could be located there?
- Could not a single Eastern granite repository safely handle the East's waste?
- Would not this seem fair, and would not it avoid many problems, such as transportation risks to other States?
- I would respectfully suggest to my friends from the East that their current attempts to run away from the compromise of the 1982 Act are most likely to force us soon to drop our support for the repository concept and to pursue the storage option. They will be more successful in solving their problem of finding a permanent dis-

posal area for their utilities' waste if they stop trying to back out of their 1982 agreements and help us pass fair and reasonable "fine-tuning" amendments to the Act.

The Imagined "Nevada Connection"

Another even more direct and blatant alternative has been suggested for scrapping the 1982 Act. Some parties are saying that the most politically expedient thing to do would be simply to change the rules and force Nevada to take the repository! The alleged "justification" for this approach basically has been that the 1982 Act's process simply is not working, that the costs of the repository program are too high, that most Nevadans do not object to the site and many really want it and are waiting for a good offer, and that thus the "easy" way out would be to try to have Nevada host the site. While such misinformed or perhaps even selfish perceptions exist, they are quite far from reality.

I must tell you that we continue to be amazed that some parties apparently are trying to create the misimpression that Nevada is really willing to take the site and that we are just holding out for "the right price." A few individuals are much less concerned about environmental and safety considerations, and other adverse impacts, than they are about the potential personal or corporate profits that they might reap from a huge, expensive federal project. I suspect that you will find similar views from individuals in Texas and Washington (or in Tennessee with regard to the MRS).

Economic self-interest is understandable, but public safety, trust, confidence and acceptance in this case cannot be bought or traded away. As I have said, there are fundamental problems with DOE's current siting effort that make it totally unacceptable at any price.

Although some have apparently suggested to the contrary, I am far from the only Nevada public official opposing the current siting process. For example, Members of our Congressional Delegation have clearly stated their opposition to having the repository in Nevada under DOE's present program, as have our Attorney General and many of our State legislators. (Examples of local resolutions expressing concern over locating a repository in Nevada are attached to my testimony.)

Our opposition to DOE's siting effort is based not only on our understanding of the many serious flaws in this program, but also on the overwhelming views of Nevada's citizens. Public opinion polls clearly indicate that 80% or more of our citizens now oppose locating the repository site at Yucca Mountain. Thus, no one can accurately say that Nevada is willing to accept the repository!

Mr. Chairman, let me make it absolutely clear that we would fight any attempt to force a repository site on us with all of our resources. We have always stood up for and successfully defended our rights, and we will continue to do so. As you know from my earlier comments, and my recent letter to you concerning the ill-conceived "Luther Carter Proposal," the Nevada site also is not a technical panacea. **Given the flaws, political manipulation and other biases in DOE's site selection process, there simply is no way that it can be said that Nevada has necessarily either the best available site, or even a viable site. It is time for people to stop dreaming of a "quick-fix" solution and to focus their energies on how to get DOE's program back on the track intended by the 1982 Act so that a number of qualified sites can be evaluated.**

(4) SCRAP THE CONCEPT OF A PERMANENT REPOSITORY AND SHIFT TO AN INTERIM STORAGE APPROACH

Many parties who have witnessed the continuing problems of the past and current efforts to site a geologic repository have been suggesting that the siting process is so tainted and there are so many difficulties associated with the concept of disposal that it simply should be dropped. This approach thus would terminate DOE's repository siting efforts and rely on one or more MRS-type facilities and other storage technologies (such as the new dry cask storage methods some utilities now are using) for a number of years until a permanent disposal solution could be found.

It has been suggested that regional MRS facilities would be relatively easy and quick to construct and that such facilities would be safe and ensure a fair distribution of the waste burden. Reprocessing and subsea bed disposal and other new waste handling and disposal approaches could be considered carefully during the next few decades while the waste was being safely stored.

We certainly think that this storage option has merit, and it may well be necessary to follow this approach if consensus on a more permanent solution cannot be developed. However, as I have indicated, if siting a repository is not found to be too costly, it should be possible at this time to develop the necessary "fine-tuning" amendments to the Act, the basic concepts of which we believe are sound, to achieve an acceptable permanent solution to this problem.

I believe that those of us in leadership positions first have the obligation to try our best to seek permanent solutions to problems instead of taking the easy way out and passing them on to future leaders. However, if we make the type effort that I am suggesting, and it nevertheless appears that there is unwillingness or a lack of the necessary consensus for enacting such amendments, then our preferred option of seeking a permanent solution will have to be put aside and the storage option would appear to be the next best option available for dealing with the current unacceptable situation.

(5) RETAIN THE 1982 ACT, BUT MAKE "MID-COURSE CORRECTIONS"

Having highlighted the storage possibility and various unacceptable options, I now will concentrate on what we believe to be the most viable and fair option for a permanent solution for disposing of this waste-- **retain the 1982 Act with the addition of certain "fine-tuning" amendments to insure that DOE implements the program as Congress originally intended.** Although we consider the present DOE implementation program "beyond repair," we also are convinced that the Act itself is not. Its concepts generally are fair and sound. Clarifying and technical amendments are needed, however, to insure that the siting process actually will lead to an operational repository in the relatively near term.

Under this option there appear to be two basic alternatives. The first would essentially involve imposing a moratorium on site specific work and a roll-back of DOE's many totally unacceptable First-Round decisions, coupled with the creation of an independent, impartial Repository Investigation Commission. This Commission could promptly study what has gone wrong with DOE's program and make appropriate recommendations to Congress. The second basic alternative would be simply to forego the Commission and proceed directly to address our program concerns through a series of amendments.

Independent Repository Investigation Commission

In my recent letter to the Chairman, I pointed out that it is critically important for the Congress to have a real understanding of what has gone wrong before proper solutions could be crafted. I suggested that due to factors such as the contentiousness and political sensitivity of these issues, the Congress might wish to consider creating an independent, unbiased, nonpolitical body to assist in developing the facts associated with this program. **Such a commission could, like the recent Rogers and Tower Commissions, help Congress establish what went wrong, thereby providing a firm, factual basis for deciding how to correct the problems. This approach would have the added advantage of expediting the process, and, perhaps most importantly, depoliticizing it, thereby helping to reestablish its credibility and acceptability.**

Let me make it clear that we believe that Nevada, the other affected States and Tribes, and other interested parties have more than adequately documented how DOE has misimplemented this program. However, if Congress or other parties question the validity of our concerns, we are quite willing to have them reviewed fairly and thoroughly by an independent, unbiased body, such as the Commission I have suggested. We are confident that our criticisms would be sustained by such an independent audit.

Review of DOE's First-Round Decision Documents

I would like to note specifically that any investigation of the DOE program, whether it is conducted by a commission or by the Congress, should involve a full and careful review of all of DOE's decisional documents with regard to the First-Round program. As you know, the preliminary investigation by the House Energy and Commerce and Interior Subcommittees indicates, as we have long contended, that the site nomination and selection process was very biased and skewed by political and other inappropriate considerations. That limited investigation focused primarily on the Washington site, but we believe that a thorough examination of the available documents would reveal many improper manipulations and serious deficiencies with respect to DOE's treatment of the Nevada site and probably the Texas site.

Immediate Amendment Approach

While we support a moratorium and an independent, unbiased commission-type review of DOE's program, if Congress is willing to recognize the validity of our concerns, we now are prepared to work with you and other parties in drafting "fine-tuning" amendments to insure a siting process that fairly follows the 1982 Act. As I have made clear throughout my statement, the present program is so tainted and unacceptable that it simply must be stopped and many of the initial DOE decisions rescinded. **Thus, we strongly feel that necessary amendments would have to include dropping the recommendation of Nevada, Texas and Washington for site characterization because such recommendations were based on DOE's biased and flawed program.**

Amendments also should include provisions for:

- **adopting realistic time lines so that key program decisions are not driven and biased by artificial and unreasonable deadlines;**
- **withdrawing the Guidelines, the Multiattribute Utility Analysis (MUA), and the Environmental Assessments (EA's);**
- **issuing new, revised, unbiased Guidelines, MUA, and EA's that are objective, scientifically grounded, not subject to undue agency manipulation or to allowing an agency to follow its predispositions irrespective of the Act;**
- **screening for additional potentially acceptable sites in conformance with the revised Siting Guidelines;**

- **requiring a more phased screening approach to site characterization whereby more information concerning whether a site is likely to be disqualified is obtained earlier in the siting process, thereby ensuring better potential sites will be characterized;**

- **ensuring greater and earlier involvement and concurrence by NRC and EPA in the siting program;**

- **guaranteeing greater State and Tribal rights of active participation, consultation and oversight in the process and providing the funding necessary for such involvement, to be administered by a neutral party so that the States will not have to go to court to obtain such funding;**

- **creating an independent and ongoing oversight and dispute resolution board to monitor, and where necessary, to redirect DOE's implementation of the program;**

- **providing greater economic incentives to the host States; and**

- **requiring new procedures to limit conflicts of interest that may arise because DOE contractors involved in site evaluation and nomination may also benefit greatly if the site they are evaluating is characterized.**

I would like to highlight the critical need for establishing some type of ongoing oversight or appeals body to help monitor the program and to help resolve disputes that inevitably will arise in the siting process.

The DOE HLW program office also would have to be reorganized and new personnel be assigned to key policy positions. Many of the present personnel are considered so biased that credibility and trust could never be restored to the program if they remain as the decision-makers on these issues. Congress might also even want to give consideration to shifting the entire program or major portions thereof to another federal agency. In addition, as I will comment on more below, much more attention must be given to the cost of this program.

If the Committee wishes to proceed directly with such amendments to the Act, we would be quite willing to assist in drafting legislative language to deal with our various concerns. In that regard, I want to point out that it would be necessary in a number of instances to spell out the amendments' intent in considerable detail through the statutory language. This approach will help prevent Congressional intent from being misinterpreted when this program is reimplemented.

A Special Comment On Costs

Mr. Chairman, as you consider the options for dealing with this DOE program's many problems, I want to urge this Committee to give very careful attention to the issue of program costs. Site characterization cost at each site now is estimated at approximately $1 billion. This raises a number of questions.

How Can European Nations Do It More Cheaply?

Many people have begun wondering why Europeans are planning to dispose of their high-level waste in salt and granite repositories at a cost far less than what DOE is planning to spend just for site characterization. Why can our European friends apparently do this so much more cheaply? I must admit that I do not know the answer to this question, but it clearly demands an answer. I would not be surprised if you find there are several reasons including:

- Many Europeans are more trusting with regard to nuclear power matters, and probably for very legitimate reasons have confidence in their own governmental agencies' ability to safely dispose of nuclear waste. For example, the Swedish program operates on the assumption that public trust and confidence can be garnered by the collocation of repositories and reactors.

- On the other hand, most Americans are very fearful of nuclear materials and accidents. Moreover, they are leery of their government's rather poor record of ensuring that they are protected from hazardous and toxic materials generally, and given the track record of DOE and its predecessors, they have good reason for special concerns in the nuclear waste area.

- Thus, you probably will find that Americans simply will demand many more assurances that the siting process will lead to truly safe sites and such assurances will cost much more than the more limited testing, etc. that may be done in Europe.

- Europeans also probably are exercising far better management over their waste programs than you will find at DOE.

    - ◆ For example, the current RFP for a coordinating contractor illustrates both how DOE has thus far not properly managed important aspects of the program, and how it could be run more efficiently and effectively in the future.

- **Moreover, given the fact that DOE has so thoroughly mismanaged so many key aspects of this program, how can you expect anything but poor management when it comes to cost containment?**

DOE's Cost Data Cannot Be Relied On

This point leads me to another important question about DOE's cost figures. How accurate are they? The new GAO Report entitled Status of DOE's Nuclear Waste Site Characterization Activities (March 1987) seems to suggest that DOE's cost numbers are quite imprecise and speculative. Given our own experiences I am sure this is often the case. In that regard, I must focus your attention on an important implication of these very unreliable cost figures.

- Our review of certain of DOE's decisional documents that came to light through the House Subcommittees' investigation of the First-Round site selection process clearly showed that **DOE did not use equivalent cost data in comparing the costs** of the five nominated sites.
- DOE's own internal audit by its "ICE" Team of the cost figures produced by OCRWM pointed out inexplicable **substantial differences among cost figures for the same basic raw materials,** such as steel, at the five sites.
- The key point that must be recognized here is that **DOE's numbers simply cannot be trusted** any more than many of its other program elements. This means that you cannot automatically accept the cost comparisons that have been made, or the other judgments, such as site rankings, that are based on such cost data.

Cost Questions Support The Need For A Moratorium And Investigation

Such important cost questions also clearly provide a major further justification for imposing an immediate moratorium on DOE's out-of-control program and for conducting a thorough cost audit as part of an overall detailed investigation of this program. Congress should not continue to pour billions of ratepayers' dollars on this problem. It is time to begin to correct the problem, and the first step in doing so is to halt the current program and to determine the facts.

I believe that the type of independent, nonpolitical Repository Investigation Commission that I have earlier recommended would be an ideal mechanism for seeing that the necessary complete program audit is conducted. It would not be surprising to receive many cost-saving recommendations after such an audit was conducted. One obvious change that might be suggested, in light of both DOE's established mismanagement and the public confidence that European governmental agencies have successfully engendered, would be to change the administration of the waste program to another, untainted agency. This could save money not only through better management, but an agency with greater public trust (and hopefully fewer inherent conflicts) might be able to conduct the program with considerably fewer costly tests. (Also, as the States have so often suggested, far more initial screening should be done to obtain disqualifying data early on in the siting process so that poorly qualified sites can be screened out quickly.) The Siting Guidelines, as promulgated by DOE, insure that site characterization will be costly.

Siting A Repository Is Certain To Be Costly

Although I would be surprised if a proper audit did not reveal tens or hundreds of millions of dollars being unnecessarily wasted, and did not propose management and other changes to achieve significant savings, I still have no doubt that Congress will find that having a repository program in the U.S. will be very expensive regardless of such changes. Our citizens are certain to demand a very high level of protection from the dangers of high-level nuclear waste. This alone is likely to make our costs much higher than what we may find in certain European countries.

I also wish to point out that the problem of high costs has always been a recognized consideration with regard to this program and Congressional oversight of it. For example, the Congressional Office of Technology Assessment ("OTA"), in its 1985 study entitled Managing the Nation's Commercial High-Level Radioactive Waste ("OTA Study"), recognized the competing interests of containing costs and of assuring that a repository would actually be developed and operational:

> *"The major issue in siting and developing the geologic repositories is the balance between: 1) the desired degree of certainty that a repository will be available without major delays, and 2) the initial costs of the program, both financial and political. It is impossible to both maximize the certainty of the repository schedule and minimize the initial costs at the same time."*

The OTA recommended implementing the waste program in a manner intended to emphasize certainty and to minimize the risk of major programmatic delays. To realize these goals, the OTA even suggested that DOE expand the siting and development program to add one backup site at the characterization stage and one at the licensing stage to reduce significantly the clear risk that the siting process will be delayed by programmatic failures or problems at any one site. In explaining this approach, which DOE did not adopt in its Mission Plan, the OTA made the following important observation:

> *". . . additional costs of an expanded implementation program would produce offsetting benefits that are not readily quantifiable. First, it in-*

> *creases the credibility of the process by allaying concerns that key decisions might be compromised by lack of suitable alternatives. Second, it substantially reduces the risk that the credibility of the Federal program might be damaged by major delays in the repository program. Because of its troubled history, any major programmatic failure---real or perceived---could have grave consequences for both the waste management program and the continued use of nuclear power. The greater initial costs of the OTA [approach] may thus be regarded as insurance for a program that cannot afford any major failures or delays."*

Thus, while some might take the risk that only one site be characterized, OTA has suggested that it is well worth characterizing even more than the three sites DOE has currently proposed. This approach is much more likely to produce a repository site than the risky, and inherently unfair, approach of characterizing only one site as some are proposing.

The OTA approach is much more in accord with the Act's concepts and with the position of Nevada and the other affected States and Tribes. We have always insisted that there be at least three sites characterized for a permanent geologic repository even though the costs will be considerable. Among other things, we feel that this is essential to ensure fairness and that the best available site actually is picked after a reasonable comparative analysis of available qualified sites. Of course, as I have explained, the facts are patently obvious that DOE's current program has been so chaotic and biased, and its standards and data so skewed and questionable, that there simply is no valid basis whatever for picking Nevada or any of the other sites as the best available site even if Congress decided to forego fairness and elected to gamble on a single site as being licensable.

Cost May Lead To The Storage Approach

Mr. Chairman, although we must make reasonable efforts to control costs, the reality is that the high cost of waste disposal simply is a part of the cost of nuclear power. **This must be paid like other business costs. However, it may be that the cost of such a permanent disposal program at this time is just too high for our nation to bear. If Congress makes that policy decision, after a full and fair airing of the facts, then it would seem necessary to shift to the much cheaper storage option while we attempt to find new technologies and less costly ways of dealing with our nuclear waste problem.**

CONCLUSION

Chairman Johnston and Members of the Committee, I sincerely hope that my testimony today has helped to clarify the issues that must be addressed to resolve the many problems that have developed with regard to DOE's HLW repository program. In particular, I hope that I have:

- **conveyed the need for Congress to address these issues promptly through legislative action;**

- explained the program's primary defects, why Nevada and the other affected States can never accept a repository under the present DOE program which has no credibility, and why our concerns are far more fundamental than mere politics or "Nimbyism";

- adequately outlined the basic options for correcting these problems, and demonstrated that "sending the waste to Nevada" is not a viable or acceptable option, and suggested that the siting cost issue may mean that we should forego the entire concept of a repository and shift to a longer-term storage concept;

- shown why the preferred approach for a permanent solution in the near term is to return the siting process to the track intended by the 1982 Act, which necessarily will require rolling back various DOE actions and reimplementing the program in accordance with the Act; and

- demonstrated that Nevada is willing to make a sincere effort to work with Congress, the utilities, the Second-Round States and other interested parties in a cooperative and good faith manner to solve these pressing problems before additional millions, and perhaps billions of dollars of ratepayers' money is wasted.

I appreciate this opportunity to appear before you, and I now would be happy to answer any questions that any Members may have.

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Environmental Policy Institute
317 Pennsylvania Ave. S.E. Washington, D.C. 20003
202 544-2600

APR 7 1983

April 6, 1983

Mr. Robert L. Morgan
Project Director
Office of Civilian Radioactive Waste
U.S. Department of Energy
Washington, D.C. 20585

Dear Mr. Morgan,

Attached are the Environmental Policy Institute's comments concerning the Department's Proposed General Guidelines for Recommendation of Sites for Nuclear Waste Repositories as noticed in the Federal Register on February 7, 1983(48 FR 5670).

Sincerely,
David Berick
David Berick
Director, Nuclear Waste Project

Attachment: Appendix

Original and two copies enclosed

Environmental Policy Institute
317 Pennsylvania Ave. S.E. Washington, D.C. 20003
202 544-2600

April 6, 1983

Comments of the Environmental Policy Institute
in the Matter of:

Department of Energy Proposed Guidelines--
10 CFR Part 960 "Nuclear Waste Policy Act
of 1982; Proposed General Guidelines for
Recommendations of Sites for Nuclear Waste
Repositories" (48 FR 5670, February 7, 1983)

Introduction

As stated in testimony before the Department of Energy(DOE) hearing panel on this matter on March 10, 1983 in Washington, D.C., the Environmental Policy Institute finds that the proposed guidelines do not reflect the letter or the intent of the Nuclear Waste Policy Act of 1982(P.L. 97-425)(the Act)and are substantively inadequate.

First, the proposed guidelines are based upon proposed Environmental Protection Agency(EPA)standards which are defective and do not adequately protect the public health, safety, and the environment. The "System guidelines" proposed by the Department and dependent on the EPA standards are thereby inadequate.

Secondly, the DOE has not established a methodology for evaluating individual sites or classes of sites in light of its "system guidelines". No guidance is given as to how the "technical guidelines" are to be weighed or evaluated so as to determine compliance with the "system guidelines".

Thirdly, the proposed "Program guidelines" do not accurately reflect the statutory program or requirements established in the Act. Section 112 of the Act clearly requires DOE to give primary consideration to geologic factors in establishing the guidelines. As noted above, no methodology exists for making geologic considerations primary considerations either under the "systems guidelines" or the "program guidelines". In point of fact, the "program guidelines" propose the establishment of three separate site selection procedures based upon specific media, specific hydrogeologic settings, and identification of sites already dedicated to federal nuclear activities. The latter is not consistent with the requirements of Section 112 of the Act and has not been justified by the DOE as either an appropriate site selection procedure or guideline.

Fourth, the DOE proposal does not establish a methodology or process for applying either the "systems guidelines" or the "technical guidelines" to the site selection processes DOE has identified and used.

Detailed Comments

§960.2-0 Definitions

"Accessible environment"--The proposed definition neglects groundwaters and aquifers especially the case of near-surface unconfined aquifers which are routinely "accessed" for public, industrial, and agricultural water supplies. The proposed definition is inconsistent with the letter and objectives of several of the proposed technical guidelines and their respective favorable and unfavorable conditions; §960.5-1-1 "Depth to Underground Facilities", §960.5-2-2"Hydrologic modeling" which both reference "forseeable human activities" including groundwater withdrawals, and §960.5-6-1 "Natural resources".

Although the definition reflects the definition used by the EPA in its proposed rule(47 FR 58196, December 29, 1982), this definition is not adequate to protect the public health and safety and the environment. EPA's draft environmental assessment on its proposed rule(DEIS-EPA 520/1 82-025, December 1982)acknowledges the significance of impacts from groundwater contamination within the proposed 10 kilometer controlled area. The DEIS states:

> "Accordingly, our approach does not provide any direct protection for the relatively small amount of groundwater that could be within 10 kilometers of a geologic repository. However, since the amount of groundwater left unprotected should be kept as small as possible, consistent with other requirements, we expect that the Federal environmental impact statement for each disposal system will identify all sources of groundwater within 10 kilometers of the disposal system, will describe the potential long-term effects of possible contamination of these sources of groundwater, and will consider these effects as one of the factors in evaluating alternative sites."
>
> (EPA DEIS @ 114)

As stated by EPA, DOE should consider groundwater contamination within the proposed kilometer control zone as a factor in site selection. Since the Act has modified the application of NEPA to the site selection process subsequent to EPA's promulgation of the proposed rule and DEIS, and assigned DOE alternative responsibilities through site selection guidelines and environmental assessments, EPA's admonition should be taken as a literal requirement by DOE at this time and included in the proposed site selection guidelines.

The EPA proposed standard is itself defective since it clearly and incorrectly assumes that the groundwater regime within the 10 kilometer zone is static and does not involve significant flow. Groundwater and sub-surface aquifers can and will flow, often at significant rates (such as at the Hanford Site),through or across portions of,or all of,the 10 kilometer zone. As a result, groundwater outside of the zone is not fully protected as EPA contends.

The 10 kilometer zone is also predicated upon "passive insitutional measures" for its integrity and justification.

EPA envisions these passive measures to include permanent markers, public records, Federal ownership and other measures(48 FR 58201). Control by these measures has not been demonstrated by EPA or by DOE to be functional or adequate. In fact the DOE's"Final Environmental Impact Statement on the Management of Commercially Generated Radioactive Waste"(DOE/EIS-0046F, October 1980)concludes that the applicability of institutional controls is controversial at best. The FEIS stated that:

> "The analysis of these issues(institutional controls)is, of necessity, purely speculative, and based on historical examples that provide no firm basis for making predictions."
>
> (FEIS @ §3.5.2.2)

Furthermore, the FEIS concludes that:

> "Waste management systems adopted in the present time period should place minimal, if any, reliance on any human management after the repository is closed."
>
> (FEIS @ §3.5.2.2)

The DOE confirmed this position over the inappropriateness of using institutional controls in its filing in the NRC's waste confidence proceeding(DOE/NE-0007 "Statement of Position of the United States Department of Energy", April 15, 1980). The DOE Statement concluded that:

> "The continued existence of institutions charged with that responsibility cannot be ensured over the extended period of time required for waste isolation. Long-term active institutional controls will not be assumed in the NWTS Program safety analyses."
>
> (DOE Statement @§ II.E.3.3.1)

I note parenthetically that although DOE in its "Statement of Position" refers to "active institutional controls" rather than the "passive" controls used in the EPA proposed rule, DOE includes "land-use control rights by the Federal Government" in its categorization of institutional controls.

The definition of "accessible environment" runs contrary to acknowledged requirements for protection of public health and safety and the environment and is an inadequate and inappropriate definition both under the EPA proposal and the DOE proposed guidelines.

§960.3-0 System Guidelines

DOE states that the purpose of the "system guidelines" is to define general requirements for system performance. DOE, however, has used an overly narrow definition of "system performance." The proposed guidelines are intended, under the Act, to be used for the recommendation of sites for repositories which must, as a matter of law, meet applicable EPA and NRC standards. §960.3-0 merely reiterates that such repositories are expected to meet legal requirements. They do not establish guidance on how those legal requirements are to be met.

The charge to the DOE in Section 112 of the Act is not limited to the performance of the repository per se, but rather to establish a siting process "for the recommendation of sites." These guidelines are required by the Act to establish detailed geologic considerations as the primary criteria for site selection. In addition, Section 112 details an extensive list of other considerations including many off-site considerations such as transportation and proximity to population areas and restricted federal land-use areas.

The "System guidelines" proposed under §960.3 do not, as required by Section 112 of the Act, comprise a sufficiently broad range of system components or consequences, such as transportation, and as such do not provide an adequate or legal basis for site selection.

§960.3, as proposed, does not, as required by U.S. and international radiation protection guidance, require radiation exposures to be kept as low as reasonably achieveable(ALARA) for either phase of repository operation or for off-site consequences such as transporatation. There is also doubt whether ALARA would provide a stringent enough radiation protection philosophy for the post-closure period since benefits to future generations of waste-generation activities would appear to be negligible.

No Application Methodology

§960.3, as proposed, does not provide a methodology or confidence levels for the application of specific criteria to be used in determining the adequacy of the repository site to the proposed NRC and EPA standards. The statement contained in §960.3-2 that a site will be disqualified if it cannot be modeled with reasonable confidence begs the question of how the site will, in fact, be modeled and how the technical site selection criteria identified in §960.5 will be applied.

DOE has clearly employed site selection and criteria weighing methodologies in selecting sites,notably the Hanford Site. DOE's environmental assessments concerning the Hanford Site contain detailed discussions of the site selection process although the specific methods for weighing site selection criteria are incorporated by reference(see DOE/EA-0188, September 1, 1982 @ §2.2.3 and DOE/EA-0210, February, 1983 @ §3.5).

The absence of any procedures for applying the technical criteria under §960.5 in evaluating the proposed repository systems and off-site consequences against the performance objectives in §960.3 is a serious omission especially in light of the fact that DOE has apparently already made such determinations in the case of Hanford. Such procedures should take into account the unique requirements of different classes of sites based upon geologic media and hydrogeologic considerations. Such procedures, as required by Section 112 of the Act, must make geologic considerations primary.

§960.4 Program Guidelines

As noted above, the proposed "program guidelines" fail to establish procedures or a methodology for applying proposed "technical guidelines" or system performance criteria to individual sites . §960.4 , which purports to establish "...how DOE will conduct its program to identify and select potential sites...", makes no reference whatsoever to either the §960.5 "technical guidelines" or the §960.3 "systems" performance criteria or how or when they are to be applied during the selection process.

In light of the fact that DOE has apparently made such determinations in the case of the Hanford Site, this is a serious omission. To the extent that the DOE has delegated its responsibility to establish site selection procedures and decisions to its contractors(Woodward-Clyde Consultants and Rockwell-Hanford)in the case of Hanford, the site selection decision for that site is in question.

The proposed rule and preamble describe three site selection processes which may be used, and in fact have been used, for selecting repository sites. §960.4-2 of the proposed guidelines identifies the three processes as the location of specific media, examination of hydrogeologic settings and the identification of sites already effected by Federal nuclear activities. The proposed "program guidelines" fail to establish any relationship between these three dissimilar site screening procedures and the applicability of the "technical" or "performance" guidelines.

Use of Federal Land-Use for Site Selection

The Act does not authorize DOE to establish either site selection guidelines nor site screening or selection procedures based upon areas "...already dedicated to the nuclear activities of the Federal Government." In fact, Section 112 of the Act is quite specific about the scope and nature of the site selection guidelines and the nomination process and clearly requires geologic considerations to be the primary criteria for selection of sites. This requirement is clearly at odds with the third site investigation process identified in §960.4-1 by which sites are identified on the basis of federal nuclear use. DOE fails in the proposed rule to explain or justify this federal nuclear activity land-use approach.

Although DOE has frequently identified its intention to select potential repository sites on the basis of current federal nuclear activities, we can find no explanation or justification for such a policy except historical precedent and convenience.
(see NWTS-4 "National Plan for Siting High-Level Radioactive
Waste Repositories and Environmental Assessment",
February, 1982)
(see FEIS on "Management of Commercially Generated Radioactive
Waste" Vol. I, December 1980 @ §5.2.1 Geologic Site
Selection")
(see ONWI-33(2) "NWTS Criteria for Geologic Disposal of Nuclear
Wastes: Site Qualification Criteria", January, 1980)
(see DOE/NE-0007 "DOE Statement of Position" in the NRC Waste
Confidence Proceeding, April 15, 1980 @ §II.A.2
"NWTS Program; Conservative Approach to Ensuring
Safety"; §II.D.4 "Investigative Methods"; §III.C.1
"Selection of Candidate Sites for Repositories")

(see DOE/NE-0007 Supplement 1,"DOE Cross-Statement" in the NRC
Waste Confidence Proceeding @ §II.A.15)

DOE has failed to justify this site selection approach. It is at odds with the statutory requirements of Section 112 of the Act and it is at odds with DOE's proposed site selection guidelines which are at issue here. Only one of DOE's proposed guidelines, §960.5-6 "Human Intrusion" identifies federal ownership as a favorable requirement. The Department has failed to identify in the proposed rule adverse consequences of siting the proposed repositories on sites already committed to nuclear activities including extremely hazardous activities such as nuclear weapons testing and nuclear materials production ✓ which are carried out at such sites. The DOE has also failed to identify how conflicts with such activities effectively alter site selection decisions.

DOE for example limited its examination of the Nevada Test Site for possible repository locations because of land-use conflicts within the site. DOE noted in its "Statement of Position" before the NRC Waste Confidence Proceeding that:

> "Because waste isolation activities must not interfere with the prime mission--nuclear weapons testing--NTS exploration for a suitable site on the Nevada Test Site is currently limited to the southeast portion."
>
> (DOE/NE-0007 @ Appendix B)

The use of federal nuclear activity as a site selection guideline and site selection approach as proposed in inappropriate and may in fact lead to the selection of less desirable sites. This approach should be deleted from the proposed guidelines.

§960.4 Regional Distribution

Section 112 of the Act is quite explicit as to the requirement that DOE consider the proximity of proposed repository sites to high-level waste and spent fuel storage sites and transportation requirements and regional distribution in the siting of repositories. Additional requirements for site selection on a regional basis with consideration of transportation impact and costs are contained in Section 114. The proposed guideline fails to include any of these factors in describing the consideration of regional siting and implies that such considerations will not be taken into account for the first repository.

DOE has failed to address the underlying requirements and conditions to be applied for regional siting and establishes here a policy which runs counter to the letter and intent of the Act.

§960.4-5 and §960.4-6 Schedules for the First & Second Repositories

These sections incorrectly state and grossly oversimplify the statutorily required step-by-step process for selecting the first two geologic repository sites. For example, DOE has failed to state that the nomination of five sites is to follow the issuance of site selection guidelines and to take place with the consultation of affected states(Sec. 112(b), with public hearings and with presidential review(Sec. 112(c). The guideline also fails to state that the nomination must be accompanied by a detailed environmental assessment.

DOE also fails to state that the recommendation of three sites for characterization must be based upon a review of the environmental assessment and requires completion of a site characterization plan. DOE fails to note that the statutory deadline for selection of sites for characterization is January 1, 1985 for the first repository and July 1, 1989 for the second.

DOE fails to state that the final recommendation of repository sites must be accompanied by a full environmental impact statement, must be the subject of completion of characterization activities, is subject to consultation with affected states and Indian tribes and congressional review. DOE also fails to state that the two dates provided in the Act for submission of the final site recommendation(March 31, 1987 and Mqrch 31, 1990)may be extended by the president until March 31, 1988 and March 31, 1991.

In short, DOE in both §960.4-5 and §960.4-6 misrepresents the statutory procedures, schedules, requirements, and responsibilities the Secretary and the Department must implement. DOE has made it appear that its schedule for repository selection is to be governed by the March 31, 1987 and March 31, 1990 dates when in fact these dates are adjustable and when the DOE has numerous statutory mandates it must fulfill leading up to the recommendation of a final site.

DOE states in the preamble to the proposed guidelines that it has conformed its siting schedule to the requirements of the Act. To date, this has not been the case. DOE has established schedules which compromise statutory requirements for the interim steps leading up to the 1987 and 1989 site recommendation dates. DOE even failed to consult with affected states prior to promulgation of the proposed quidelines as required by the Act. DOE's capricious description and incorporation of repository site selection schedules in these two proposed guidelines indicates that DOE has not, as stated, conformed its site selection schedule to the Act.

§960.5-0 Technical Guidelines

EPI believes that DOE's failure to establish a methodology for applying the "technical guidelines" to individual sites or classes of sites has resulted in unnecessarily vague and imprecise technical guidelines. In very few instances are actual "qualifying" or "disqualifying" conditions identified despite statutory direction in the Act. No guidelines are media specific, for example. An additional negative result is that the guidelines tend to lenient or lax since they must be applied to all sites as individual criteria. The "technical guidelines" should be reevaluated and resubmitted consistent with an overall methodology for their application.

The proposed guidelines give very little actual guidance for identifying or eliminating sites. The proposed "technical guidelines" are obviously closely related to those guidelines developed by ONWI under contract with DOE(see ONWI-33(2), January 1980)and to those guidelines derived from ONWI-33 and included as Appendix A in NWTS-4, DOE's national site selection plan. It is not clear that these preceeding exercises, in fact, establish an adequate basis for making the technical proposals required in this proposed rule.

The DOE inclosed a cover letter in ONWI-33(2)signed by then Acting Deputy Assistant Secretary for Nuclear Waste Management, Sheldon Meyers stating that:

> "Each NWTS project(e.g. Basalt Waste Isolation Project, etc.,)will develop quantitative specifications, technical requirements, and methodologies specifically applicable to their particular project. The project-specification information will be compatible with these general site-qualification critieria, and will be issued later as appendices to this document."
>
> (see ONWI-33(2), January 1980)

In fact, these general guidelines are not media specific and give little guidance on evaluating sites, including alternative sites in the same media, on a comparative basis.

§960.5-1 Site Geometry

The comparable criteria contained in NWTS-4/Appendix A (see criteria 3.1)stated that the site must have "geometry adequate for repository development". In many ways, the NWTS-4 criteria is a more appropriate and more rigorous requirement than that proposed here which merely requires a rock mass volume adequate for placement of the repository. Shape, uniformity of the strata, capability of the strata to provide necessary thermal and retardation considerations would not be included in the proposed guideline.

§960.5-2 Depth to Underground Facilities

There is no indication that 200 meters is a controlling depth for human intrusion and as technology advances and more easily tapped aquifers and natural resources are depleted, the proposed 200 meter requirement will become increasingly meaningless. The depth to underground facilities to alleviate human intrusion should be dealt with in that part of the "technical guidelines" concerning that aspect(§ 960.5-6) and should not be interjected as a geologic consideration. While 200 meters may be appropriate for geomorphic purposes, it is not clear that it accurately reflects that consideration but rather appears to be a "hybrid" value aimed at satisfying dissimilar considerations. The 300 meter "favorable condition" also appears to be a somewhat arbitrary value. This guideline should be reevaluated strictly from the standpoint of the geologic integrity of the repository system.

§960.5-1-2 Thickness and Lateral Extent of Host Rock

The comparable criteria contained in NWTS-4/Appendix A (see Criteria 3.1.2)provided that the controlling condition be the "...thickness and lateral extent of the geologic system surrounding the waste emplacement area" and that this be sufficient to incorporate a "buffer zone". The proposed guideline limits consideration to the ability of the host rock merely to contain the underground facility. The proposed guideline, therefore, is less rigorous since it need not provide a "buffer zone" to account for greater than expected stresses during construction or operation or post-closure periods. The proposed guideline only relates to the size of the repository and not to the ability of the host rock to accept and conduct thermal or physical stresses. Since the ability of the host rock to physically accomodate the repository is only one factor, and generally a minor one, in considering the thickness of the host rock, the proposed guideline is seriously inadequate.

§960.5-2-1 Geohydrology

It is somewhat difficult to accept that a geologic repository guideline for geohydrology would not have any potentially adverse conditions since geohydrology will be one of the principal release/containment mechanisms for the vast bulk of the containment period. Geohydrology, consistent with the requirement in Section 112 of the Act, should be designated as a "primary consideration."

The methodology suggested by the guideline,that of a pre-emplacement ground water travel time of 1000 years, is highly questionable since the geologic formation will, under any scenario be subject to thermal load and other factors which render any pre-emplacement value irrelevent. An example of such a circumstance would be the behavior of interstitial clay deposits in Hanford basalt under greater thermal load. The guideline does not adequately address the post-emplacement environment and the acceptable level of impact of the repository on the geohydrologic regime without compromising predictability.

§960.5-2-2 Hydrologic Modeling

Since it is well recognized that the integrity and performance of the proposed repository must be assessed through modeling, the proposed guideline should include a greater degree of confidence than that stated in the proposed guideline, i.e. the proposed requirement that the "...regime shall be capable of being characterized with sufficient certainty to permit modeling...". The guideline should specify that the "... geohydrologic regime shall permit modeling sufficient to provide a reasonable assurance that radionuclide releases from the proposed repository will be less than...".

The potentially adverse factors listed 1 through 6 should be designated "disqualifying" conditions, since they would clearly render the necessary modeling, design, and licensing bases irrelevent and their probability of doing so is high.

§960.5-2-3 Shaft Construction

This guideline is seriously defective, as proposed, since it fails to address the post-closure integrity of shaft and repository sealing. The guideline, as proposed, also fails to address construction and post-closure transmission between aquifers penetrated by the shaft along the shaft zone. Such transmission, which was identified in ONWI-13 "Estimated Environmental Effects of Deep Drilling" Technical Report, December 1980, could lead to contamination of adjacent aquifiers or the creation of additional or shorter release pathways.

§960.5-2-4 Dissolution Features

The DOE obviously has great confidence in its ability to predict the rate and consequences of an active dissolution front over a 10,000 year period, though it would appear to be unfounded. This guideline would be appropriate, at best, only for a potentially active dissolution front. An active dissolution front should be a "disqualifying" condition.

§ 960.5-3 Geochemistry

As in the case of geohydrology, geochemical characteristics will serve as a major release/containment mechanism over the greater portion of the containment period. Geochemistry should be designated a "primary consideration" as required under Section 112 of the Act. Similarly, the proposed guideline should be rephrased as a positive condition,rather than as a negative condition which should be limited in order to limit releases, i.e. "...geochemical characteristics will prevent radionuclide releases greater than...".

§ 960.5-4 Rock Characteristics

The proposed guideline, unfortunately, leaves out repository construction from the list of qualifications although such considerations are addressed in a sub-guideline. The ability of a site to tolerate construction without immediate or accumulated stress effecting the integrity of the site(i.e. fracturing or subsidence, improper or inadequate sealing, etc.)should be a prime consideration under this guideline.

§ 960.5-4-1 Physical Properties

As in §960.5-4 above, the proposed guideline does not consider stresses that can be expected from repository construction but only considers interactions between waste and host rock. Similarly, the proposed guideline does not address the capability of the rock to be sealed or backfilled as part of repository closure.

§ 960.5-4-2 Operational Safety

The proposed guideline suggests that underground and construction safety is at issue and not the radiological safety of the repository workforce. If this is in fact the case, the application of NRC and DOE safety requirements are not sufficient. Underground construction should be governed by standard OSHA and MSHA mining safety requirements. Neither DOE nor NRC have the expertise or the authority to establish occupational safety requirements for repository construction.

§ 960.5-6 Human Intrusion

§ 960.5-6-1 Natural Resources

The guideline does not take into consideration the fact that exploration history or past use may not give an accurate view of natural resources within the region or on the site. This may especially be the case on federally owned land where mineral exploration may have been restricted or simply in the case where particular resources have been in abundant supply and extensive exploration has not been required.

The guideline also defines inappropriate "favorable" and "potentially adverse" conditions. The proposal that resource concentrations not be "significantly greater than the average condition for the region" is not a favorable condition and is not a limiting condition. Not only may the average concentration be high enough to encourage extensive exploration and extraction, but the presence of even marginally economic resources may be an inducement for further exploration. Even if the guideline were set as a requirement that resource concentration in the region and the concentration near the site be neglible, as we suggest, it may not deter exploration if a high market value is placed on the resource in question.

The "potentially adverse" condition understates the economic value of resources which will increase as more easily obtained deposits are depleted especially hydrocarbons. Criteria of "currently feasible" or "potentially feasible" economic extraction can, at best, be extrapolated only a few decades. As we have seen with the effects of OPEC on hydrocarbon exploration, the economic value of resources is highly volatile and not even directly related to availability of lower cost deposits.

§ 960.5-6-2 Site Ownership and Control

As discussed under §960.4, DOE has not made a sound case for the role of federal ownership and control beyond the operation stage and has overstated the benefits of federal control while understating the liabilities.

DOE has not demonstrated that federal ownership will limit human intrusion for any meaningful period as noted in comments in §960.2-0 concerning the definition of "accessible environment". DOE has not demonstrated that federal ownership is an appropriate siting or control requirement which can or should be used to reduce the level of control required of non-institutional repository requirements.

As discussed in § 960.7-4 "Offsite Hazards" which follows, DOE's proposed favorable condition of siting on a DOE reservation may require the site to be located near extremely hazardous activities such as underground nuclear weapons testing or radioactive materials production. . Location near these activities, as would be the case at Hanford or the Nevada Test Site, could have an adverse effect on near-term operation and long-term integrity of the repository. The guideline suggests that the only liabilities of siting a repository on a DOE reservation are the possible impacts on existing DOE activities by the repository. This is clearly not the only potential adverse condition.

§ 960.5-7 Surface Characteristics

The guideline uses the term "surrounding area" but does not define the term and does not relate it to the "accessible environment", site boundary, or other designation of the site.

§ 960.5-7-1 Surface-Water Systems

Section 112 of the Act requires the guidelines to take into account the relationship of the location of the proposed repository and several factors including the proximity to water supplies and the effect upon the rights of water users as well as the proximity to populations and various federal special-use lands. The guideline only addresses the impact of surface water features on the repository and not the converse, i.e. the impacts on water users and supplies of the repository, as required by the Act.

§ 960.5-7-4 Offsite Hazards

This guideline overstates the desirability of siting a repository at a DOE reservation. The reservations in question are locations where various extremely hazardous activities are currently carried out or planned. The Hanford Site, for example is immediately adjacent to chemical reprocessing facilities containing large quantities and concentrations of nuclear material including potentially critical quantities of plutonium. The site is also adjacent to the N-Reactor production facility, the Fast-Flux Test Facility and near two Washington Public Power Supply System commercial nuclear powerplants (now under-construction). Although the probability of a major accident at these facilities may be small, the consequences of a serious release at any of the above could greatly effect the repository activities which are expected to extend for upwards of 80 years. The DOE facilities in question have not been subjected to independent licensing review by the Nuclear Regulatory Commission and it is not clear that the DOE's facilities could in fact meet NRC safety requirements.

Similarly, the Nevada Test Site is the location of the Nation's underground nuclear weapons testing facility and adjacent to U.S. Air Force bombing and gunnery ranges. These are not innocuous activities and the siting of a repository adjacent to the nuclear weapons testing area raises serious questions about seismic impact and possible contamination of the repository site from test shot venting. The guidelines suggest that the only adverse effect on locating a repository adjacent to such activities is the possible interference with those activities. The converse, i.e. the impact of DOE activities on repository operation and integrity, should also be addressed as a "potentially adverse" condition.

§ 960.5-8 Population Density and Distribution

The guideline should also reference NRC Part 20 radiation protection requirements including release from potential accidents during repository and transporation operations. The guideline should also address population projections during the operation and monitoring period of the repository as well as future periods.

§ 960.5-8-2 Transportation

(See Appendix)

§ 960.5-9 Environmental Protection

The guideline should be restated to require that environmental impacts be reduced to the maximum extent practicable and not, as proposed, that only the likelihood of impacts be reduced and that they be mitigated when they subsequently occur only to the extent reasonably achievable.

§ 960.5-10 Socioeconomic Impacts

The proposed guideline understates the range of socioeconomic impacts and limits favorable and unfavorable conditions to economic costs. The socioeconomic impact of the proposed repository will vary depending upon the location. The FEIS on "Management of Commercially Generated Radioactive Waste" (DOE/EIS-0046F, October 1980)noted that for a rural southwestern site, population growth, as a percentage of the region, might be three times higher than for a southeastern repository. In such a case, with a 12 to 15% population increase, the effects of development on property values, cost of living, availability of housing, and the quality of life could be large and could not be accomodated merely by "reasonable mitigation or compensation."

The proposed adverse conditions are phrased in terms of their adversity to the DOE and not on the affected community. The proposed guideline is clearly inadequate to the extent that it does not address the range of impacts nor identify the range of potentially adverse conditions even to the extent that DOE has identified them in the FEIS.

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Appendix to the Comments of the Environmental Policy Institute Concerning the Transportation Implications of the Department of Energy's Proposed Nuclear Waste Repository Siting Guidelines (48 FR 5670, February 7, 1983)

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April 6, 1983

EPI--1

Congressional Concern for Transportation Impacts

In the Nuclear Waste Policy Act of 1982 (Congressional Record, Dec. 20 1982, pp. 410516 - 410544) Congress recognized the widespread public concern about unnecessary nuclear spent fuel transportation. In the Interim Storage section Congress directed DOE to "minimize the transportation of spent nuclear fuel" (Sec. 135) to a federally-operated storage facility, and DOE's environmental assessment for any storage site with over 300 metric tons of spent fuel "shall include...

> (vii) an assessment of the regional and local impacts of providing such storage capacity at such site, including the impacts on transportation."

The Act explicitly denies any relaxation of or challenge to existing federal or state or local laws regarding nuclear transportation (Sec. 9 and Sec. 137).

The Act directs DOE to draft "Guidelines" for the recommendation of candidate sites for repositories (Sec. 112). The Act indicates clearly the importance DOE's careful consideration of the transportation factors associated with each site:

> "Such guidelines shall specify detailed geologic considerations that shall be primary criteria for the selection of sites in various geologic media. Such guidelines shall specify factors that qualify or disqualify any site from development as a repository, including factors pertaining to the location of valuable natural resources, hydrology, geophysics, seismic activity, and atomic energy defense activities, proximity to water supplies, proximity to populations, the effect upon the rights of users of water, and proximity to components of the National Park System, the National Wildlife Refuge System, the National Wild and Scenic Rivers System, the National Wilderness Preservation System, or National Forest Lands. Such guidelines

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> shall take into consideration the proximity to sites where high-level radioactive waste and spent nuclear fuel is generated or temporarily stored and the transportation and safety factors involved in moving such waste to a repository. Such guidelines shall specify population factors that will disqualify any site from development as a repository if any surface facility of such repository would be located (1) in a highly populated area; (2) adjacent to an area 1 mile by 1 mile having a population of not less than 1,000 individuals. Such guidelines also shall require the Secretary to consider the cost and impact of transporting to the repository site the solidified high-level radioactive waste and spent fuel to be disposed of in the repository and the advantages of regional distribution in the siting of repositories. (my underlining throughout)

In its nomination of 5 sites to the President by January 1, 1985, DOE is directed by the Act to include for each site an environmental assessment (EA) which presumably would include attention to transportation factors. The EA shall include, among other things:

> "(iv) a reasonable comparative evaluation by the Secretary of such site with other sites and locations that have been considered;
>
> "(vi) an assessment of the regional and local impacts of locating the proposed repository at such site (Sec. 112 (b) (e)

Transportation impacts should presumably also be fully considered at a later stage under the EIS for DOE's site recommendation to the President. Again DOE is directed to comparatively evaluate at least three alternative sites. (Sec. 114 (f).

The Act also explicitly highlights transportation concerns among the "offsite concerns" of State and local governments and affected Indian tribes. DOE is directed to begin negotiations with such governmental units and to enter into binding written agreements that shall specify how the DOE shall:

> "(5)...assist such State, and the units of general local government in the vicinity of the repository site, in resolving the *offsite concerns* of such State and units of general local government, including, but not limited to, questions of State liability arising from accidents, necessary road upgrading and access to the site, ongoing *emergency preparedness* and emergency response, monitoring of *transportation* of high-level radioactive waste and spent nuclear fuel through such State..."
>
> "(7)...notify such State prior to the transportation of any high-level radioactive waste and spent nuclear fuel into such State for disposal at the repository site." (Sec. 117 (b))

The agreement negotiated between DOE and the State of New Mexico (Assistant Attorney General Joe Canepa) resolving the state's offsite concerns about DOE's Waste Isolation Pilot Project (WIPP) includes several agreements related to transportation impacts.

Hanford as the "Worst Case" Site for Transportation Impacts

Congressional concerns about the consideration of waste transport impacts reflect awareness of the sobering analysis in the 1981 draft study from the National Academy of Sciences. This as-yet-unpublished draft report details very serious transportation problems which will impact almost all the states and criticizes the current plans for nuclear spent fuel transportation and disposal. The 1981 draft study by the NAS Panel on Social and Economic Aspects of Radioactive Waste Management characterizes as "primitive" the federal regulatory framework for transporting high-level radioactive spent fuel, and the study predicts serious "impasses" between state and federal officials if state officials are not given greater voice in regulating the safety of the projected 75,000 nuclear truck shipments through their states. Without "drastic revision" of current federal regulation, the NAS study says, "the probability of serious accidents will increase."

EPI--4

There has been "a substantial neglect" of the transportation problems for nuclear spent fuel:

> "The transportation system would involve most of the states, whether they were the site of nuclear power plants or not. The system would be required to have a high degree of reliability and to operate under the close scrutiny of a concerned public and local officials."

The volume of truck shipments will be significant:

> "...if the number of power plants in operation rises from the current 60 to the 150 authorized, the number of shipments to off-site locations will increase. These shipments would begin in the mid-1980s and would increase to nearly 9,000 shipments per year by about 2005, if they were all by truck."
>
> "If all the spent fuel were shipped by truck the rate of growth would be much more rapid, increasing at an annual rate of about 500 truckloads per year. By 2004 there would be on the order of 9000 individual shipments per year. The last statistic is important. If all of these shipments were sent to a single point--either an AFR, a reprocessing plant, or a geologic repository--they would arrive at an average rate of one per hour all year round."

The impact of rail shipments could be clearly unacceptable:

> "The rail transport costs used here assume that rail cars originating at various reactors would probably be assembled at depots or marshaling yards. Thus, at any given time there would be a number (perhaps a large number of rail cars carrying spent fuel waiting in marshaling yards across the country. Some of these yards--Chicago, for example--are likely to be in densely populated areas. Moreover, a single car may wait a week or more. This means that for all practical purposes railroad marshaling yards would become de facto short-term AFRs. In a fully operating system hundreds of rail casks might at any given time be "stored" in these yards."

A centralized nuclear waste disposal system is seen as both likely and undesirable:

> "Despite the fact that the Department of Energy professes to still have regional repositories under consideration, (U.S. Dept. of Energy 1981), all indications point to the emergence of a relatively centralized waste disposal system for spent fuel, with one or several waste repositories (or a repository with multiple shafts) sites concentrated in

> the west or southwest. The candidate sites currently furthest along in characterization are the Waste Isolation Pilot Plant, the Hanford reservation, and the Nevada Test Site. If the one or several repositories planned are located in the west or southwest, the Panel concludes that this choice will result in a waste system which is costly in its transportation requirements, enlarges inequities among regions, is potentially vulnerable to operational bottlenecks, and places significant institutional burdens upon states. The western siting of a single repository will exacerbate all these problems, particularly through the creation of a waste transport system which is national in scope and funnel-shaped in configuration."

The NAS study states bluntly that:

> "Federal/state conflicts remain unresolved. While the federal governmet possesses needed formal authority to implement a waste disposal system, the states possess ample means to challenge federal authority over (particularly) non-radiation issues and could create substantial delay and continued conflict. Although "concurrence" presupposes that agreement will be reached, in fact impasses are likely and there currently exists no effective means for overcoming such impasses."

Several nuclear waste highway route maps have been created by federal government experts at Oak Ridge National Laboratories using a computer model based on routing data supplied by a major U.S. nuclear waste trucking firm, and also taking into account the relevant federal and local nuclear waste routing regulations. The maps show the nuclear route patterns for various likely nuclear waste sites. (Attachment A)

The Environmental Policy Institute extrapolated the ORNL routes maps to show the most likely highway "waste funnel" patterns for two of the top DOE candidate sites for geological high-level (and spent fuel) waste disposal, one at Hanford, Washington, and the other at Moab, Utah. (Attachment B). One pattern that stands out is that the eastern and midwestern states with many nuclear reactors are likely to be shipping their wastes across and into what the U.S. Defense Department (in planning atmospheric nuclear explosions in southern Nevada) called the "virtually uninhabited" areas of western states. On the way, however, shipments will traverse the largest western cities (St. Louis, Omaha, Des Moines, Denver) that the Interstate highways were obviously built to connect. And the "virtual uninhabitants" of Utah and Nevada have recently emerged from their ghostly non-existence to halt such additional nuclear burdens on their areas as the racetrack MX-missile.

The route maps have generated enormous media interest across the U.S. At least two conclusions emerge from consideration of the NAS-type analysis:

- In the U.S. citizens are probably not going to tolerate the most hazardous nuclear waste shipments without some real improvements in safety and regulation.
- When democracy is genuinely allowed to intrude in any area of nuclear decision-making, sticky problems arise.

EPI--7

DOE Guidelines Inadequate

The draft EA for the Hanford site and the DOE draft Guidelines set out an extraordinarily minimal set of decision factors related to transportation impacts. The Guidelines have ample pious language in several places about minimizing risks, e.g., from the Rationales Sections (my underlining throughout);

> "4. Regional Distribution. Nuclear plants that generate electricity are located or being built throughout the country. Since the safe disposal of wastes that result from electricity production will likely require the construction of more than one repository, a regional distribution of repositories could provide a more equitable sharing of the impacts of the repository among the people benefitting from the generation of the electricity and from the goods and services produced by that electricity. Furthermore, the transportation of wastes from the location of their production or temporary storage also causes impacts that could be reduced by selecting the routes over which the wastes are transported to minimize risk."
>
> "8. Population Density and Distribution (Section 960.5-8). The density and the distribution of population are always important in site selection. A low population density in the area of the site will minimize exposure to hazards associated with potential accidents. It is also necessary to recognize the impacts that might accrue from the use of likely transportation routes.
>
> The possible advantages of reducing waste transportation must be weighed against the safety margins provided by the environmental and geologic conditions of considered sites. It could very well be that acceptable sites may be found close to centers of waste production or storage, but if these sites are considerably more difficult to characterize and develop, then the benefit of shorter transportation routes may be outweighed by these difficulties. Consequently, DOE policy is to consider transportation and current waste locations as two of a large number of factors."

The Guidelines state (Sec. 960.4-3) that "due consideration" shall be given to regional and local impacts, using the same language that is in the Nuclear Waste Policy Act. But the "regional distribution" consideration has been explicitly delayed until after a remote far-Western site has chosen.

EPI--8

> "After the selection of the first repository site, a major consideration in siting additional repositories shall be regional distribution. The DOE shall consider the advantages of regional distribution in the siting of repositories to the extent that technical, policy, and budgetary considerations permit.

The Guidelines' brief section on transportation (960.5-8-2) again virtually quotes in its first paragraph the language of the Act:

> "The cost and other impacts of transporting radioactive waste to a repository shall be considered in selecting the repository sites. Consideration shall be given to the proximity of locations where radioactive waste is currently generated or temporarily stored and the transportation and safety factors involved in moving such waste to a repository.
>
> (a) Favorable conditions. Ability to select transportation routes that minimize risk to the general population.
>
> (b) Potentially adverse conditions. Site locations requiring the concentration of transportation routes through highly populated areas.

But the above Guidelines again demonstrate the minimal attitude towards transportation risks. Note that DOE considers what most citizens would view as the worst case situation (concentration of routes through highly populated areas) as only "potentially adverse". Certainly here is one criterion that should be considered as definitely a "disqualifying factor" for a candidate site.

Furthermore, the DOE Guidelines should explicitly describe what assumptions DOE is making about the routing of spent fuel shipments to potential repository sites:

- Will the current state and local laws restricting nuclear transport be honored?
- Will these restrictions be overridden by federal preemptive efforts (currently spearheaded by DOT)?

- Will there be any regional decision-making by state and local officials as to the safest mode and/or routes of spent fuel shipment?
- Will there be development of a new generation of spent fuel shipping casks, and unlike the current casks will these be fully tested and free from generic defects?
- Will there be any upgrading of emergency response capabilities along the selected routes, in terms both of training the (mostly volunteer) firefighters who would respond to any serious accident and of providing states and cities with state-of-the-art radiological emergency response vehicles?
- Will the current restrictions on nuclear transportation imposed by various bridge, tunnel and turnpike authorities be honored?

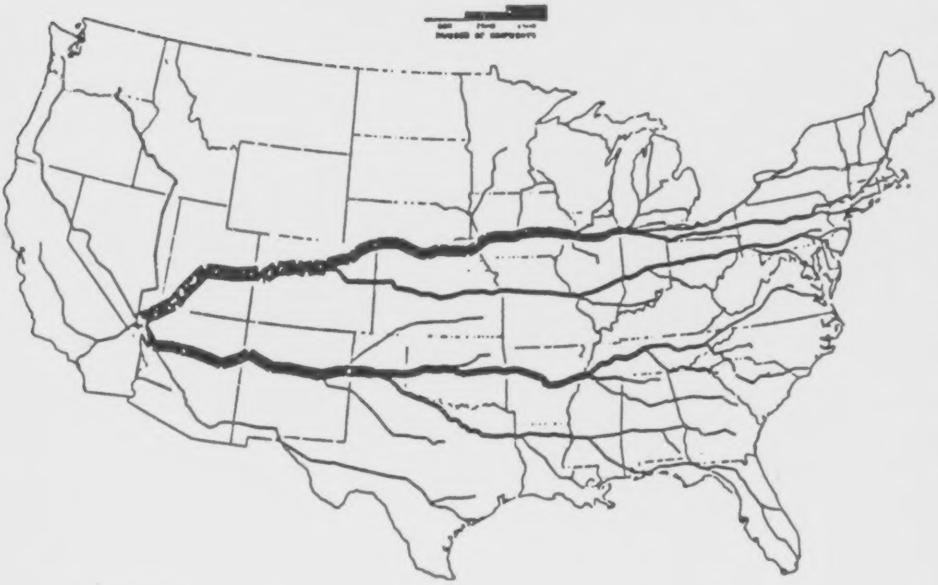
These are critical questions in any federal or citizen evaluation of transportation risks and impacts. DOE should supply quantitative limits where possible for transportation-related factors, such as the numbers of persons exposed toradiological risks in transportation and the availability of emergency response resources. DOE should rank-order other factors, such as weather impacts on various routes and risks to water supplies and land resources.

Above all, DOE should compare the transportation-related risks and costs of (at least) the first five candidate sites. Anything less on DOE's part risks the appearance of deliberate contempt for nuclear waste transportation concerns among the public and in Congress.

Attachments:

PROJECTED ANNUAL SPENT FUEL SHIPMENTS TO A WESTERN STORAGE SITE IN 2004

BASIS: TRUCK SHIPMENTS FROM ALL REACTORS
(FOR DEMONSTRATION PURPOSES ONLY)



EPI comment:

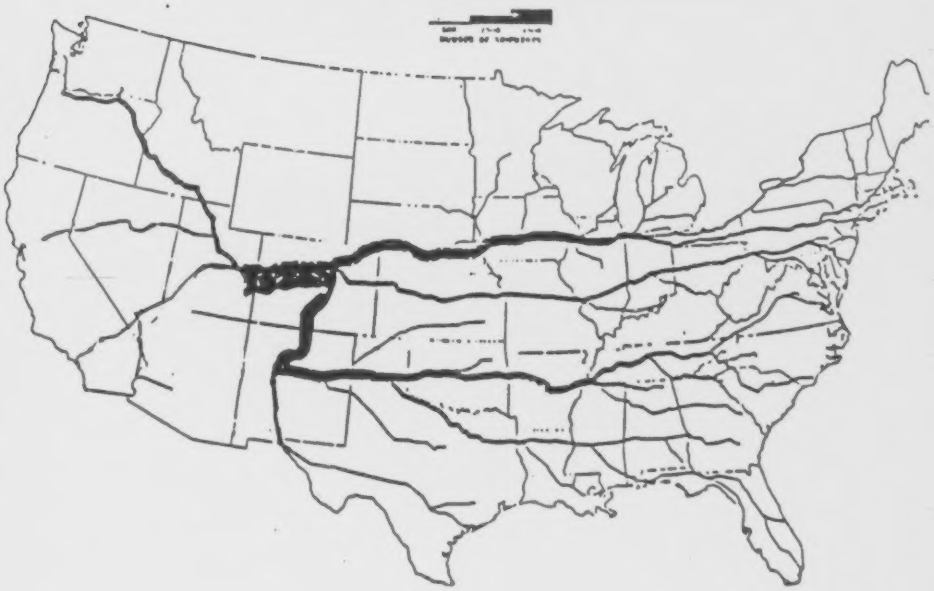
This ORNL map shows a southern Nevada waste storage or disposal site creating a nuclear waste funnel with massive waste corridors from the Eastern and Midwestern reactors, along I-40 from TN to NEV and along I-80, I-80/90, I-80, I-76, I-70 from PA to NEV.

ROUTES TO A MOAB, UTAH SITE

This EPI-generated map shows nuclear truck cargo routes converging on the proposed nuclear waste site near Moab, Utah. The map is a minor adaptation of the Oak Ridge National Laboratory map showing the potential waste site in southern Nevada, which would create a nuclear waste funnel with massive waste corridors from the Eastern and Midwestern reactors, along I-40 from TN to NEV and along I-80, I-80/90, I-80, I-76, I-70 from PA to NEV.

The only major change is to guess that southern nuclear waste shipments would turn north from I-40 at Albuquerque, then take I-25 north to Denver and there join the I-76 and I-70 waste streams. (The shorter highway route from Albuquerque to Moab would require use of non-Interstate routes 666 and 163.)

PROJECTED ANNUAL SPENT FUEL SHIPMENTS
TO A WESTERN STORAGE SITE IN 2004
BASIS: TRUCK SHIPMENTS FROM ALL REACTORS
(FOR DEMONSTRATION PURPOSES ONLY)

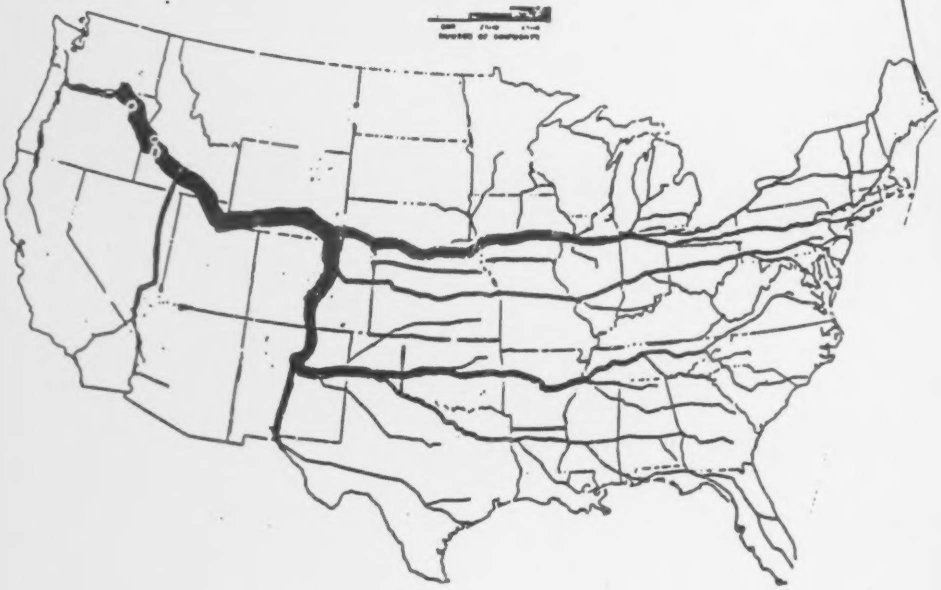


ROUTES TO A HANFORD, WASH. WASTE SITE

This EPI map is based on the Oak Ridge National Laboratories map shown in the 1981 draft report of the National Academy of Sciences. This map shows nuclear waste truck routes converging on the proposed high-level waste site at Hanford, Washington. Waste funnels are formed primarily along I-40 from TN to Albuquerque, NM; along I-70 from PA to Denver; and along I-90/I-80 from New York State to Salt Lake City, UT.

The main assumption EPI added to the ORNL map is that the southern reactor shipments would turn north at Albuquerque on I-25 and join the northern reactor I-80 waste stream at Cheyenne, Wyoming.

PROJECTED ANNUAL SPENT FUEL SHIPMENTS
TO A WESTERN STORAGE SITE IN 2004
BASIS: TRUCK SHIPMENTS FROM ALL REACTORS
(FOR DEMONSTRATION PURPOSES ONLY)



DEPARTMENT OF ENERGY, ATTN: FIRST, GEOLOGIC REPOSITORY PROGRAM
CONTROL SPECIALIST
P. O. Box 2500
Washington, D.C. 20013

A-SYSTEMS ENGINEERING AND DEVELOPMENT CONTRACTOR FOR FIRST GEOLOGIC REPOSITORY PROGRAM. This is notification of intent to issue a RFP in 60 days. The Office of Geologic Repositories (OGR) in the Office of Civilian Radioactive Waste Management (OCRWM), Department of Energy is responsible for siting, designing, obtaining a license for, constructing and operating the first high-level nuclear waste repository. To accomplish these responsibilities for the First Repository Program, OGR requires a contractor that will be assigned contractual responsibility, subject to the Government approval process associated with research and development contracting, for systems engineering, development and technical direction for the siting, designing and licensing requirements of the First Geologic Repository Program, including integrating the results of State and Indian Tribe consultations and the work of other program participants such as national laboratories, other federal agencies and DOE prime contractors conducting work in support of the program and its three sites. The contractor will be rquired to: 1) Integrate the repository system within the overall OCRWM system and ensure that all repository system elements meet OGR engineering, project management, cost, schedule and quality requirements. 2) Provide technical direction to the site characterization program. 3) Provide system engineering and technical direction for the repository and waste package system, and the development of comparative evaluations of potential repository sites. Develop the waste package and repository License Application Designs for all three sites. 4) Develop and propose licensing strategies and establish and maintain an implementation plan to coordinate and direct all licensing activities, including activities needed to satisfy quality assurance requirements leading to the production of a complete license application. 5) Prepare environmental reports containing the information necessary for development of the EIS to support the selection of a preferred site. To allow for consultation and cooperation, the affected States and Indian Tribes have been asked to give informal comments on the work proposed for this acquisition. Requests to obtain a copy of the RFP when available must be in writing.

FACT SHEET

Management Changes in the Geologic Repository Program

BACKGROUND:

The Nuclear Waste Policy Act (NWPA) caused a fundamental change in the character of the Geologic Repository Program. Prior to the NWPA, the Geologic Repository Program had many of the characteristics of a competition among three distinct projects, where each was managed by a different project office located under a different DOE operations office. The program's strategy was that the repository would be built by the project office that first produced a satisfactory site.

In this environment, Headquarters responsibility was to provide policy guidance, establish generic technical requirements, and manage the program's overall costs and schedule. Each project office retained the responsibility to execute all aspects of its assigned project, leading to site selection and licensing. These project responsibilities included: site characterization testing, environmental data collection, waste package and repository design, development of models to test these designs, preparation of the NRC license application, and many other related functions.

Enactment of the NWPA changed the character of the program from a competition to a unified, comparative evaluation of candidate sites. At the end of site characterization, a detailed comparative evaluation must be documented and presented for Presidential decision. Following the President's decision, a license application must be submitted to the NRC. Necessarily, these documents must be of high quality, at an appropriate level of detail to support such important decisions, and fully objective in all comparisons.

Requirements to get the program moving and meet a very tight set of schedules required a phased approach to be taken initially. Existing management structures were retained to keep project momentum while the new Office of Civilian Radioactive Waste Management (OCRWM) met the initial NWPA requirements for a detailed mission plan, environmental assessments for initial site selection, and ambitious outreach requirements at all stages of activity.

Now that the initial requirements have been met, the complexity of the program, as well as its continued integrity, require a management enhancement in order to insure consistency among all of the critical elements and across all sites. This streamlining of management is in the spirit of recommendations of the AMFM report, as well as industry and GAO recommendations.

OBJECTIVES

The objectives of these management enhancements include the following:

- Consistency in critical test and evaluation work that will lead to both site selection and licensing.

- Improved specification of HQ requirements to project teams, leading to clearer understanding and improved responses.

- Improved efficiency in total program management:

  - Reduce/remove duplication of work done for each of the candidate sites. It is not cost effective to have three projects use different sets of contractors to design aspects of the waste package or repository that would be essentially the same at all sites.

  - Single set of criteria and standards for site characterization and evaluation of test results; consistent application of criteria and standards across projects.

  - Centralized management of key program and project priorities at Headquarters; project office focus on construction of facilities, data collection and preliminary analysis, and institutional interactions.

PROPOSED STRUCTURE

Several approaches to strengthen program management and execution were considered. Since the greatest part of the program involves research, development, testing and evaluation elements, a decision was made to acquire a systems engineering and development (SE&D) contractor. This contractor would be able to perform both the R&D aspects of the program and provide the necessary technical integration across the three sites. This will be done in concert with the Field Project Offices who will conduct the Site Characterization Program.

Major functions under this revised structure would be:

- Headquarters responsibilities:

  - Management of the overall program, to include developing policy guidance, establishing generic technical requirements, managing overall costs and schedule, and conduct of program-wide institutional interactions.

  - Responsible for centralized management of all efforts leading to an NRC license.

  - Responsible for the technical management of the SE&D contractor.

- Project Office responsibilities:
  - Construction, operation and maintenance of the exploratory shaft facilities.
  - Conduct of Site Characterization activities, including collection of data and preliminary analysis of results.
  - Participate in preparation of environmental reports and other information and data for the EIS and the NRC license application.
  - Conduct of State, Indian Tribal and local institutional relations and outreach activities.
- SE&D Contractor responsibilities:
  - Update and management of the Site Characterization Plan.
  - Analysis and integration of site characterization data and specification of additional requirements.
  - Development and documentation of design and performance assessment models.
  - Management of licensing data bases and development of data and analysis specifications to fulfill licensing requirements.
  - Conduct of waste package and repository design activities, including direction of architect-engineers.
  - Preparation of environmental reports and other information and data for the EIS and the NRC license application.

TRANSITION

Current estimates are that once an SE&D contractor has been selected, which will take about 12 months, the transition period to full effectiveness would require about 24 months. The revised program schedule, as described in the draft Mission Plan Amendment, will allow a smooth transition for all parties involved.

- The majority of key contracts at the project sites are designed with a three to four-year base period and several option years. The focus has been on site characterization and the design and construction of the exploratory shafts. Most of this ongoing work will not be affected by the SE&D contractor.
- For those efforts that will be affected, the SE&D contractor will be phased-in, with little impact on the base period of the majority of existing contracts.

- There are likely to be some transfers of functions between the current contractors and the SE&D contractor. In these circumstances, it is not uncommon for knowledgeable employees to be offered the opportunity to move with their projects when there is a change in management but no change in the substance of the work.

- Little or no impact is expected on local or project office staffing.

- Beyond the current base contract periods, some potential increases in scope and staffing may be replaced by the SE&D contractor's functions. Efficiencies and savings result largely from avoiding duplications in design efforts that would require increases in staffing in the later years of the program.

STATES AND INDIAN TRIBES

States, Indian Tribes and other affected parties will be consulted prior to the establishment of their role vis-a-vis this new management structure. Suggestions and comments will be solicited from these parties in establishing this role.

STATEMENT OF NEVADA'S TECHNICAL CONCERNS

The State of Nevada first officially declared that certain technical problems could exist at the Yucca Mountain site in the State's Comments on the U.S. DOE Draft Environmental Assessments of the Proposed High-Level Nuclear Waste Site at Yucca Mountain, March 1985. DOE ignored the State's declared concerns and did no new investigations by which to address those concerns in its later published Environmental Assessment for the Yucca Mountain Site. DOE/RW 0073, May 1986. Nevada sought Nuclear Waste Fund funding to conduct testing in order to better address those concerns and DOE denied funding. Though the State's right to the use of these funds was upheld, Nevada v. Herrington, 777 F.2d 529 (9th Cir. 1985), DOE equivocated over withheld funding until Spring 1987.

Following publication of the final Environmental Assessment, the Nuclear Regulatory Commission enumerated several areas about which they felt DOE needed more or better information or should not have been so certain of its conclusions. NRC staff advised DOE of certain other alternative conclusions from existing data, which conclusions DOE should consider.

In this document Nevada restates the technical concerns previously published. Included in the text are references to technical studies and reports so as to inform the reader of the most recent and complete relevant information of which the State of Nevada is aware.

I. Disqualifying Conditions

Based upon the technical evidence known to date concerning the proposed Yucca Mountain site, the State believes five disqualifying conditions from DOE's siting guidelines (10 CFR 960) may be present.

Postclosure Tectonics (10 CFR 960.4-2-7(d))

The disqualifying condition states:

> A site shall be disqualified if, based on the geologic record during the Quaternary period, the nature and rates of fault movement or other ground motion are expected to be such that a loss of waste isolation is likely to occur.

DOE finds the site is not disqualified because the nature and rates of fault movement or other ground motion are not likely to cause loss of waste isolation. Low water flux and long groundwater travel-times are cited as providing additional assurance of isolation (DOE EA for Yucca Mountain Site, 1986). The available evidence suggests, to the contrary. DOE's data base is incomplete and often conflicting. A reasonable interpretation of the available information is that a large earthquake accompanied by surface faulting could occur near or within the repository during the lifetime of the facility.

The evidence supporting this interpretation is as follows:

1. Regional studies (Algermissen et al., 1983; Carr, 1984; Rogers et al., 1983) show that Yucca Mountain lies within an area of relatively high seismic activity and, therefore, should be considered as seismically active (U.S. Geological Survey, 1984, p. 78).

2. Seismic data suggest that north-northeast-trending faults are susceptible to slip in the current stress field (Rogers et al., 1983). Stress measurements taken at the repository site suggest that the stress field is close to that at which fault failure might be expected (Healy et al., 1984). Explosion-induced tectonic strain release on north-northeast-trending faults suggests that the Yucca Mountain faults may also be tectonically stressed to near the rupture point (Rogers et al., 1983). Taken together, these data suggest that the potential for significant seismicity and renewed movement on faults exists and should be considered (Rogers et al., 1983, p. 27; U.S. Geological Survey, 1984, p. 72).

3. Lack of surface (fault) rupture is not sufficient evidence to discount active faulting at Yucca Mountain (U.S. Geological Survey, 1984, p. 78). The evidence of Swadley et al. (1984) does not completely preclude the presence of capable faults. Recent field evidence near Yucca Mountain indicates fault movement as young as 3,000 years ago (Whitney et al, 1986). The lack of stratigraphic controls on Holocene deposits near similar faults on Yucca Mountain cannot preclude a conservative finding that the faults on Yucca Mountain are active.

4. The estimated peak ground acceleration (0.4 g) calculated for Yucca Mountain is too low based on a reasonable interpretation of future tectonic events (DOE EA for Yucca Mountain Site, 1986). Based on the conclusions of Rogers et al. (1983), the U.S. Geological Survey (1984) and Whitney (1986) that Yucca Mountain faults should be considered active, and if a large (M = 6-7) earthquake were to occur on a Yucca Mountain fault, peak ground accelerations approaching or exceeding 1.0 g could be possible.

5. The estimated recurrence rate of 2.5 earthquakes in 100,000 years per 1,000 km^2 calculated by DOE yields a rerupture time of 40,000 years per 1,000 km_2. This is an estimate of

the activity occurring randomly within a 17-km radius (1,000 km^2) of the site. Since previous work has established that Yucca Mountain faults may be preferred sites of fault activity, rerupture times at Yucca Mountain could be significantly shorter than 40,000 years. The recurrence rate (2.5 x 10^{-5} events/year/1,000 km^2) computed by DOE is also comparable to rates measured in areas of Holocene (less than 10,000 years old) on historic faulting in western, central, and north-central Nevada (Bell, 1984a, b; Wallace, 1978).

Using an average displacement rate of 0.11 m/1,000 years on the Windy Wash fault west of Yucca Mountain (Carr, 1984), 1.1 m of slip would be anticipated in the next 10,000 years. This is equivalent to at least a single earthquake of M = 6.5-7 (Bonilla et al., 1984).

6. Low ground-water flux rates and travel-times (>20,000 years) are not tenable arguments against radionuclide release in the event of fault-induced disruption. These parameters have been calculated on the basis of present geohydrologic conditions and do not consider the probability of increased precipitation, elevated water table, or the effects of tectonic activity such as fracturing or regional deformation. They are also based on incomplete and unsubstantiated hydrologic evidence as described in comments by Desert Research Institute.

In summary, the evidence relative to the disqualifying condition is incomplete and equivocal. Previous and present work, in fact, suggests that there is a significant potential for tectonic movement; this may result in loss of waste isolation. It is clear that there is a substantial body of evidence that suggests that Yucca Mountain does not meet the postclosure tectonics disqualifying condition and, therefore, should be disqualified from further consideration.

Preclosure Tectonics (10 CFR 960.5-2-11(d)

The disqualifying condition states:

> A site shall be disqualified if, based on the expected nature and rates of fault movement or other ground motion, it is likely that engineering measures that are beyond reasonably available technology will be required for exploratory-shaft construction or for repository construction, operation, or closure.

DOE finds that the site is not disqualified because reasonably available technology is expected to be sufficient to construct an exploratory shaft, and to safely construct, operate, and close a repository; DOE expects the nature and rates of fault movement or other ground motion not to adversely affect the construction of the exploratory shaft or repository construction, operation, and closure (DOE EA for Yucca Mountain Site, 1986). The available evidence does not support the finding made in the EA. The evidence is, at best, incomplete and equivocal.

Existing evidence fails to demonstrate that the faults at and near Yucca Mountain should not be considered capable by Nuclear Regulatory Commission criteria. The evidence for faulting in the last 40,000 years appears to be present at the site; the evidence for lack of recurrent faulting in the last 500,000 years has not been addressed by DOE.

It is not reasonable to assume that all important fault scarps have been detected as stated in the EA. Fault studies to date have not utilized several commonly accepted state-of-the-art investigative techniques in tectonic analyses for nuclear facilities. Substantial geologic evidence (Carr, 1974, 1984; Rogers et al., 1983; Scott and Bonk, 1984; Scott et al., 1984; U.S. Geological Survey, 1984) suggests that many of the faults at and near Yucca Mountain are predominantly strike-slip, rather than dip-slip in nature. The character of strike-slip faulting is such that surficial evidence may be difficult to recognize. In addition, large predominant scarps may not be present if faulting, even if dominantly dip-slip, is distributive in nature. Scott and Bonk (1984) show that Yucca Mountain is highly faulted and fractured; if a large Holocene faulting event had occurred, it may have resulted in numerous small scarps being distributed across a broad zone.

Based on existing literature, the State believes it is unreasonable to attribute the greatest potential seismic hazard to an earthquake of magnitude 6.8 on the Bare Mountain fault nearly 15 miles from the site. New field evidence documented by the USGS (Whitney 1986) suggesting young fault activity near Yucca Mountain suggests the potential for damaging earthquakes and considerably larger accelerations is possible at the site. In addition, other published studies suggest that the magnitudes calculated by DOE are too low. New statistical relationships (Bonilla et al., 1984) suggest that the Bare Mountain fault could generate at least a magnitude 6.9 earthquake. Algermissen et al. (1983) include the Yucca Mountain geologic setting in an area that could experience a magnitude 7.3 earthquake.

In summary, the seismic record is too short and the geologic evidence is too incomplete to allow a determination of fault capability at Yucca Mountain according to standard accepted criteria. Based on existing evidence, it is unreasonable to assume that Yucca Mountain faults are inactive. Current design parameters, such as maximum credible earthquake and maximum anticipated vibratory ground motion, are underestimated since they assume Yucca Mountain faults to be inactive. The evidence for lack of surface displacements at Yucca Mountain in the last 40,000 years is equivocal and incomplete, and is not substantial enough to allow the conclusion to be drawn that faulting at Yucca Mountain is unlikely during the 90-year preclosure period. The evidence suggests that fault movement and ground motion, which could be possible within the preclosure period, could adversely affect repository construction and operation. The site should be disqualified.

Geohydrology (10 CFR 960.4-2-1(d)

The disqualifying condition states:

> A site shall be disqualified if the pre-waste-emplacement ground-water travel time from the disturbed zone to the accessible environment is expected to be less than 1,000 years along any pathway of likely and significant radionuclide trave.

DOE finds the site is not disqualified on the basis of present understanding that the most likely flow time to the accessible environment is more than 20,000 years (DOE EA for Yucca Mountain Site, 1986). The Desert Research Institute, in its review of the evidence for the State, finds that by utilizing the data presented in the EA and a conservative approach to the variability of key model parameters, the ground-water travel-time can vary from less than 1,000 years to greater than 34,000 years. The minimum travel-time based upon the DRI calculations does not meet the disqualifying condition.

The conceptual model used by DOE to calculate ground-water travel-times appears adequate to describe some of the available data gathered to date. The State is concerned, however, that other, more-or-less favorable models could have been chosen to fit all the available data. In general, it does not appear that enough data have been presented (or are available) in the literature to judge the validity of the adopted conceptual model. The DOE has not presented any other conceptual models that might fit the known data base. Unfortunately, the available data make any conceptual model difficult to prove or disprove. The limited number of deep, vadose-zone (unsaturated zone) drill holes where fracture water would be easily detected is not sufficient to statistically sample the vadose zone. Since available data are insufficient to overcome the low probability of encountering fracture water, it is surprising that only limited attention is paid to it.

The use of parametric values derived from core data in calculating travel-times is misleading due to spatial variability of the data; the EA typically reported a single value for each hydrologic parameter. For example, the EA did not make use of the variance of hydraulic conductivity in deriving travel-time calculations with representative uncertainty. This problem is not unique to the EA; it is also common to much of the Yucca Mountain support documents (Montazer and Wilson, 1984; Weeks and Wilson, 1984; Sinnock et al., 1984). The range of measured conductivities presented in the EA references spans four orders of magnitude. If travel-times are calculated using the range of measured conductivities, the travel-times also range over four orders of magnitude.

In order to further demonstrate the effect of data variability on calculations of ground-water travel-times, data presented in the EA for matrix flow (Table 6-17, p. 6-139) were subjected to a simple statistical analysis to develop a range of values by the Desert Research Institute. For simplicity, only hydraulic conductivity was varied in the calculations; other parameters may not be as significant as hydraulic conductivity. Results are the following:

	Travel-Time (Years Min.)	Travel-Time (Years Max.)
Topopah Spring	978	23,218
Calico Hills (zeolitic)	1,404	34,247
Calico Hills (vitric)	7.2	169

Therefore, the range of unsaturated-zone travel-times, considering only matrix flow, may or may not meet the disqualifying conditions established in the siting guidelines. However, if a component of fracture flow is also considered, which the State believes is present at Yucca Mountain, ground-water travel will be faster, possibly by orders of magnitude, and resulting minimum ground-water travel-times will be lower.

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In summary it is acknowledged that little unsaturated-zone data are available to base a finding that the ground-water travel-time along any likely pathway exceeds 1,000 years. The great variability of the limited data indicates that travel-times could also be less than 1,000 years. The DOE must recognize the large variability of travel-times and conclude that the site may or may not meet the disqualifying condition.

Offsite Installations and Operations (10 CFR 960.5-2-4(d))

The disqualifying condition states:

> A site shall be disqualified if atomic energy defense activities in proximity to the site are expected to conflict irreconcilably with repository siting, construction, operation, closure, or decommissioning.

DOE finds the site is not disqualified because engineering design and coordination of repository schedules with NTS schedules would prevent irreconcilable conflicts caused by atomic energy defense activities in proximity to the site (DOE EA for Yucca Mountain Site, 1986). There is no support for this conclusion.

To support the finding, the EA indicates that (1) DOE will coordinate activity schedules so no underground activities will occur during nuclear-weapons tests and (2) future weapons-testing activities will be located no closer than 14 miles from Yucca Mountain. The EA further implies that DOE will set the atomic-testing schedule so as to minimize impacts on repository construction and operation; the State believes the opposite. The weapons-testing program will set the schedule, and DOE will be required to abide, as the local miners do.

There is no documentation known to the State to support the conclusion that future weapons testing will come no closer than 14 miles to the site. Historically, nuclear-weapons testing has taken place in the eastern portion of the Nevada Test Site, some 40+ miles from Yucca Mountain. In recent years the weapons-testing program has moved large-yield testing activities to the western portion of the Test Site because of a diminishing amount of undisturbed land in the eastern part (Yucca Flat). The area now dedicated to large-weapons testing is Pahute Mesa, approximately 25 miles north of Yucca Mountain. A general trend emerging from the thirty years of weapons testing on NTS is that testing requires undisturbed land. Most of the still-undisturbed land is now located in the western portion of the Test Site, some of it very near Yucca Mountain. There needs to be some assurance that future weapons testing will not intrude on a repository at Yucca Mountain. There are many other locations in the United States to place a nuclear-waste repository, but few (if any) other locations acceptable for nuclear-weapons testing. Atomic-energy defense activities beyond the near term are unknown; and, therefore, no conclusion relative to a possible future conflict with a Yucca Mountain repository can be made. Since there is some uncertainty about the level and location of future testing, the DOE should evaluate the minimum stand-off distance necessary to maintain repository integrity during all phases of repository activity and determine whether this distance is acceptable to the long-term interests of the weapons program.

A conclusion that atomic-energy defense activities will not conflict with repository activities is tentative at best. The State believes that unless the DOE has written documentation from the defense-weapons testing program that nuclear testing will not conflict irreconcilably with repository activities, a finding that the site is not disqualified cannot be made.

Socioeconomic Impacts (10 CFR 960.5-2-6-(d))

The disqualifying condition states that:

> A site shall be disqualified if construction, operation, or closure would significantly degrade the quality, or significantly reduce the quantity of water available for human consumption or crop irrigation.

DOE finds the site is not disqualified because repository water use is not expected to lower the regional ground-water table or reduce water quality (DOE EA for Yucca Mountain Site, 1986).

A major issue in this regard is not only whether repository water use will have a deleterious effect on area water supplies but also whether it can be demonstrated that long-term (10,000 years) storage of highly radioactive materials only slightly above the water table will not eventually cause contamination of (and thereby degrade) water quality. The EA does not demonstrate that the repository will be benign with regard to future water use. Until such a conclusion can be made with scientific certainty, the finding that the site is "not disqualified" is unsubstantiated.

II. Potential Disqualifying Conditions

There are a number of other technical areas where available evidence about the site suggests that positive findings are not present and that possible disqualifying conditions are present.

(1) Volcanic Activity

> The favorable condition for the tectonic guideline (10 CFR 960.4-2-7) requires that the probability for disruption of the repository by igneous intrusion or hydrothermal activity be estimated for the 10,000-year post-closure period.

> In the EA and Crowe et al. (1982) the range of probabilities for basaltic eruptions at Yucca Mountain for a 10,000-year period is stated as 3.3 x 10-6 to 4.7 x 10-4.

The DOE concludes that "the mean value of this range is less than one chance in 10,000 over the next 10,000 years," but the EA does not state the mean value or how it was determined. In the absence of such information, and considering that the range of probabilities provided in the draft EA extends to as high as 4.7 chances in 10,000 of volcanic eruptions in the next 10,000 years, it appears that the favorable condition may not be met at Yucca Mountain.

Related to the probability for volcanic eruptions at Yucca Mountain, the assessment of volcanic hazards has been downplayed by DOE despite the critical concern raised by the National Academy of Sciences in 1979. It is important to understand large-scale patterns of volcanic activity in order to evaluate the potential for volcanic eruption at Yucca Mountain. To date, volcanic-hazard studies have concentrated on Crater Flat west of Yucca Mountain; however, the Crater Flat volcanics are part of a larger volcanic field extending from Death Valley to the Pancake Range in central Nevada. Other research has suggested that other portions of the volcanic field may be younger than the Crater Flat volcanics, thus the hazard may be greater than previously estimated. Further, new field evidence is emerging that the most recent volcanic activity in Crater Flat could be younger than 20,000 years old, rather than 300,000 years old previously cited. This could make the probability of volcanic eruption during the life of the repository more likely.

The probability of hydrothermal activity, often associated with volcanic activity, was not considered in the EA, however there are several indicators that suggest hydrothermal systems have existed and may still exist near Yucca Mountain, including: elevated water temperatures, high-temperature zeolites, and possible hydrothermal deposits observed in fault zones. The upwelling of hydrothermal waters could intersect the repository and affect the isolation capability of the site. Other reports suggest that hydromagmatic eruptions have occurred at Ubehebe and Lunar Craters, north and south of Yucca Mountain. It should be noted that in 1979 DOE eliminated the Wahmonie site on NTS from future consideration as a repository partly due to the presence of warm springs and hydrothermal alteration.

(2) Tectonic Activity

The favorable condition for the tectonic guideline (10 CFR 960.4-2-7) requires the consideration of rates of tectonic processes operating within the geologic setting for the first 10,000 years after closure.

The principal assumption that the geologic history of the last 1-2 million years allows the prediction of future events must be tempered by the fact that, at least with regard to tectonics, the history is not completely understood at the present time. The evidence presented by DOE suggests that the nature and rates of igneous and tectonic activity may in fact be episodic or cyclic. This observation is acknowledged in most of the current literature related to seismotectonics of the Basin and Range Province (Carr, 1984; Rogers et al., 1983; U.S. Geological Survey, 1984; Wallace, 1978). Consequently, the scientific principle of "uniformitarianism" is applicable only if these episodes or cycles are reasonably well understood, especially if they are to be used to gauge activity over the next 10,000 years.

The EA evaluation of the favorable condition did not consider the probability of tectonic activity at Yucca Mountain. Based on the work of Rogers and others (1983) and the U.S. Geological Survey (1984), it could be reasonably inferred that since "there is a potential for significant seismicity on faults at or near Yucca Mountain . . . despite geologic evidence of general long-term tectonic stability in the last 10 million years" there is also a high probability that significant tectonic activity could occur at least once at Yucca Mountain in the next 10,000 years. If the data of Carr (1984) are used the recurrence rate of 2.5×10^{-5} events/yr/1,000 km^2 is equivalent to a rerupture time of 40,000 years/1,000 km^2. This rerupture time is the average time between surface faulting events randomly occurring within a 17-km radius (1,000 km^2) of the site. Since the faulting events will not be randomly distributed but rather will be confined to tectonic structures, it is likely that the north-northeast-trending structures of Yucca Mountain will be preferred sites of activity and exhibit rerupture rates significantly higher than the surrounding area, possibly greater than one event per 10,000 years. If the average displacement rate on the Windy Wash fault is used (0.11 m/1,000 yr; Carr, 1984), 1.1 m of displacement would occur on this fault during the next 10,000 years. This is comparable to a single magnitude 6.5-7 earthquake with normal displacement (Bonilla et al., 1984).

Based upon the above analysis and further analysis by the Nevada Bureau of Mines and Geology, the State believes that there is significant potential for tectonic activity at Yucca Mountain during the next 10,000 years.

(3) Fault Activity

Preclosure and postclosure tectonics guidelines (10 CFR 960.5-2-11 and 10 CFR 960.4-2-7) require that the nature and rates of tectonic processes such as faulting and seismicity be evaluated for their impacts on repository construction, operation, and performance. In the evaluation of faulting and the potential for ground motion due to seismicity at Yucca Mountain, DOE has made the unsupported assumption that active faulting is not present at Yucca Mountain. DOE has utilized this assumption in its findings on the disqualifying condition (10 CFR 960.4.2.7(d)) and the potentially adverse conditions (10 CFR 960.5-2-11(c)(2 and 3)).

Based upon an analysis of the potential for future fault activity at Yucca Mountain by Carr (1984), the EA states that "At present, a preliminary conclusion could be made that the north-trending faults at Yucca Mountain should be considered potentially active even though the absence of fault scarps and the near absence of seismic activity suggest that they are not active." The State is concerned that contrary to the above conclusion, DOE has made findings relative to the tectonics of the site "under the assumption that the Yucca Mountain faults are not active . . .".

Relative to seismic activity and associated ground motion at Yucca Mountain, DOE has provided values for maximum ground acceleration at the site assuming the Yucca Mountain faults are not active. There is no known presentation of values for maximum ground acceleration assuming the Yucca Mountain faults are active. This omission underestimates the potential seismic hazard at Yucca Mountain and seriously misrepresents documented findings relative to tectonics.

From the opposite perspective, the State's review of the relevant literature finds the seismic record is too short, and the geologic evidence is too incomplete to allow a final determination of fault capability at Yucca Mountain. It is unreasonable to assume that Yucca Mountain faults are inactive. Design parameters, such as maximum credible earthquake and maximum anticipated vibratory ground motion, are underestimated since they assume Yucca Mountain faults to be inactive. The evidence for lack of surface displacements at or near Yucca Mountain in the last 40,000 years is equivocal and incomplete and is not sufficient to allow the conclusion to be drawn that faulting at Yucca Mountain is unlikely during the preclosure period. Emerging field evidence from Crater Flat suggests that the Yucca Mountain faults must be considered active, and therefore a future threat to the integrity of the repository.

(4) Geohydrology

The geohydrology of Yucca Mountain encompasses a host of issues related to the acceptability of the unsaturated zone for a high-level nuclear waste repository. It has been postulated that the arid climate of the unsaturated zone may prove acceptable for such repositories; however, there is little detailed knowledge of the geohydrology of such environments. The DOE siting guideline for geohydrology (10 CFR 960.4-2-1) requires the present and expected geohydrologic setting to be compatible with waste containment and isolation, and will comply with the requirements for releases to the accessible environment and releases from the engineered-barrier system.

DOE's proposed site within the welded and highly fractured tuff of Yucca Mountain constitutes an extremely complex and difficult environment to confidently assess and characterize the geohydrologic environment. The EA clearly shows that the moisture regimen in the unsaturated zone of Yucca Mountain is still essentially unknown. What little information is known from possible analog environments, such as Rainier Mesa (see Thordarson, 1965; Henne, 1982; or Jacobson, 1982), is not particularly encouraging with respect to satisfying the geohydrology guideline. Given the complexity of the unsaturated zone and the lack of information on the unsaturated zone conditions, conclusions presented by DOE relative to satisfying geohydrology guidelines are unfounded.

From a detailed review of the literature it is clear that the existing data base and general understanding of site conditions are so limited that unequivocal conclusions are not possible. While the data base and fundamental knowledge of the site are deficient, these deficiencies are misused to create misleading quantitative results. The conceptual model of the unsaturated zone by the USGS (Montazer and Wilson, 1984) is essentially unsupported by sufficient in-situ data or relevant data in appropriate analog environments. Montazer and Wilson acknowledge that a number of conceptual models are applicable to Yucca Mountain but concede that the model selected is based on their perception of site conditions. It is, therefore, little more than subjective opinion.

The pre-waste emplacement ground-water travel-time of more than 10,000 years, along any path of likely radionuclide travel to the accessible environment, is open to serious question. Analyses using existing data demonstrate that the unsaturated-zone travel-times could be very prolonged, as postulated by DOE in the EA, or travel-times could be much shorter, as calculated by the Desert Research Institute in our comments on disqualifying conditions. The travel-time estimates calculated by DOE are highly suspect and essentially meaningless when hydraulic gradients, effective porosities, bulk hydraulic conductivities, matrix hydraulic conductivities, and true travel-paths are not well known. Some of these properties and parameters can vary from less than one order of magnitude to as much as three or four orders of magnitude. The associated calculations of travel-time also may vary accordingly in magnitude. The confidence that should be placed on such calculations in the absence of other independent evidence is very low, not high as stated by DOE.

The EA concludes that the host rock is free-draining and therefore is a favorable repository condition, however DOE has not demonstrated with data that the host rock provides free drainage. It is acknowledged that due to the extensive fracture systems, free drainage is probably present; however, observations reported in the literature note the presence of localized zones of saturation (perched water). Evidence of perched water were observed in drill holes USW H-1, UZ-1, and UZ-4. DOE must in the future evaluate whether or not the evidence of local zones of saturation implies an absence of free drainage, and then revise the geohydrologic model to reflect accurately the findings relative to the favorable condition on free drainage.

In summary, DOE's findings relative to the geohydrology of Yucca Mountain have not been demonstrated by the evidence presented to date. In the past the State has requested that DOE either revise the findings to accurately reflect the current level of knowledge and the uncertainty inherent in the data or clearly demonstrate the presence of positive geohydrologic conditions.

(5) Climate Changes

The qualifying condition for climate change (10 CFR 960.4-2-4) requires that the site be located where future climatic conditions will not lead to loss of isolation. Tow conditions are considered appropriate to this guideline: increase in water-table elevation and increase moisture flux. An evaluation of past climatic maximal conditions is applicable for assessing future effects on the repository. There is some question of the validity of DOE studies to date and the ability to extrapolate climatic changes into the future with reasonable assurance. The State believes there is insufficient information presented in the literature that supports a finding that future climatic conditions at Yucca Mountain will not lead to loss of isolation.

There is no reliable way as yet known to the State of relating precipitation to infiltration even in the modern arid setting, much less during a full-glacial period (climate maxima). Because of possible differences in vegetative cover and seasonality of precipitation, greater precipitation during a full-glacial period might result in proportionally greater infiltration than would otherwise be expected from estimates presented by DOE. How greater in filtration can be translated into increased moisture flux through the subsurface is even more speculative.

Estimates of water-rise at Yucca Mountain are theoretical and not based on hard geological evidence. Winograd and Doty (1980) calculate a 30-m maximum rise in water-table elevation in Frenchman Flat. However, Czarnecki (1984) estimates a 130-m rise in water-table elevation at Yucca Mountain and postulates perennial flow in Fortymile Wash. Czarnecki acknowledges that the uncertainty in his calculation is not supported by direct geologic evidence. Given the uncertainty in the estimations, a conservative 40-m increase in the "predicted" maximum water-table rise of Czarnecki would saturate the repository, thus possibly impacting the site's ability to contain and isolate the waste.

(6) Geochemistry

The geochemistry guideline (10 CFR 960.4-2-2) requires the present and expected chemical characteristics of the site be compatible with waste containment and isolation. Critical considerations with respect to geochemistry are potential sorption characteristics of the host rock and along transport pathways, and the geochemical interactions between radionuclides and the aqueous phases. Based upon a review of the literature, there is insufficient data to assess the sorption potential, retardation, and radionuclide transport rates and direction to the accessible environment. DOE's findings relative to the geochemistry guideline are in some cases unsupported by their own literature.

The DOE identifies potential transport paths as matrix and fracture conduits and proposes 1 mm/yr flux for matrix flow and an "unknown" higher flux for fracture flow. Various references for Yucca Mountain acknowledge that actual flux rates have not been measured, especially in the critical unsaturated zone. More importantly, no flux values have been estimated under possible pluvial climatic conditions. Without reasonable estimates of flux rates and transport direction, no rational assessment of potential sorption or retardation can be made.

Work performed by DOE to date fails to consider the effect of soluble salts in the moisture of the unsaturated zone under elevated temperature conditions. When the canisters raise the repository temperature, moisture will be driven from the near field with possible desalting of the moisture. This desalting may produce carbonate precipitates that could significantly influence uranium and plutonium complexing, thus affecting sorption effectiveness. Upon repository cooling the reintroduction of fresh moisture into the salt precipitates could produce brines that may adversely affect waste-canister integrity. Current tests by DOE cannot predict these results.

Sorption behavior of the authigenic mineral components (zeolites and clays) are partially dependent upon their cation composition. Since the known Yucca Mountain literature indicates that the cation composition of the zeolites varies with stratigraphy and geography at Yucca Mountain, it is expected that the sorption capacity of zeolites will also vary. There is no discussion of the variability in only Yucca Mountain literature and how this variability might influence the performance of the site. The reversibility of zeolite and clay dehydration does not indicate that sorption characteristics will remain similar after rehydrating. The release of certain cation species and the entrapment of others during dehydration may affect a significant change in behavior with respect to rehydration and sorption. General statements by the DOE concerning this issue simplify a complicated topic without adequately considering the important aspects that may be responsible for driving the chemical reactions.

The State has serious concern about repository containment with respect to vapor-phase transport. The concern stems from the potential of open fractures extending to the ground surface, and from the potential for convective ground-water flux. The present structure of Yucca Mountain is not a closed system; it is potentially open. Noble gases released from the waste package could be transported to the environment. Tritium certainly is soluble in water vapor and is transported by this mechanism. The behavior of the other radionuclides is unknown. Studies currently underway at the University of Arizona should address vapor-phase transport by no results are currently available. A conceptual model of deep unsaturated zones proposed by Ross (1984) identifies a significant component of upward-moving water vapor.

(7) Radionuclide Retardation

DOE, in its finding that favorable conditions for radionuclide retardation (geochemistry guideline 10 CFR 960.4-2-2) are present at Yucca Mountain, uses inappropriately applied data in the conclusions. The literature cited by DOE calculate retardation factors based on the assumption of saturated, porous flow and equilibrium conditions. The assumption of porous flow is questionable because of the uncertainty in flux and flow mechanisms. Retardation factors based on measurements from batch experiments could lead to unreasonably high estimates of the actual sorptive capacity of the host rock, and thus to unrealistically high retardation factors. Consequently, the estimates of radionuclide releases may be unreasonably low.

The overestimation of the retardation factor for unsaturated flow coupled with the possible overestimates for fracture flow versus matrix flow in highly fractured tuff suggest that geohydrologic and geochemical conditions which qualify the site may not be present at Yucca Mountain.

(8) Mineral Stability

Various aspects of host-rock mineral stability are addressed in the guidelines on geochemistry (10 CFR 960.4-2-2) and rock characteristics (10 CFR 960.4-2-3 and 10 CFR 960.5-2-9). The evidence presented in the Yucca Mountain literature is contradictory and suggest much uncertainty in the findings on host-rock mineral stability.

Data on the areal distribution and abundance of the secondary minerals is contradictory if followed through the DOE literature. Several reports (Bish et al., 1982; Vaniman et al., 1984) suggest abundant zeolites and clay minerals in the Topopah Spring Member at the repository horizon. Sorptive minerals appear to be found throughout the repository horizon in varying amounts, and it seems difficult to predict with any accuracy the absolute amount of these minerals at the repository horizon based on the few drill holes in the exploratory block. In drill holes USW G-1, G-2, and UE 25a-1, Bish et al. (1982) indicate the groundmass of the central and lower Topopah Spring has a high clay (smectite) content. Vaniman et al. (1984) report that smectite abundances may be as high as 6 percent in the repository horizon. Levy (1984) reports data from hydrological drill holes indicate sorptive minerals are present in the repository horizon; however, Bish et al. (1984) contradicts these data by reporting less alteration and sorptive materials for the repository horizon than previous literature. Vaniman et al. (1984) also indicate that zeolites occur above the basal vitrophyre in USW G-1 (10 to 20 percent) and G-2 (30 to 50 percent). Vaniman et al. (1984, p. 19) states: "Even where zeolite abundances at this level are very small, as in USW GU-3, the zeolites are concentrated along fractures and voids . . . and therefore may be important for waste element sorption along potential flow paths." Bish et al. (1984) indicate zeolites and clays are also found in the Calico Hills tuff in abundances of 70 to 90 percent. These units are within 70 m of the proposed repository horizon, where Braithwaite and Nimick (1984) predict the temperatures to exceed 80°C. However, zeolites and smectite minerals become unstable on increase in temperature, particularly under low water-vapor conditions (Bish et al., 1982; Boles, 1971; Smyth, 1982). These various references do not present a clear picture of secondary mineral abundance and distribution.

Stability and rates of reaction for zeolites and clays are not well known. Dibble and Tiller (1981) report data that indicate slow reaction rates for fluids in equilibrium with zeolites. Conversely, Vaniman et al. (1984) indicate that zeolites at Yucca Mountain probably formed at fast rates. Furthermore, Bish et al. (1982) question the applicability of literature data to zeolite and clay mineral reactions because of variations in mineralogical and chemical composition, and geologic environment.

Bish et al. (1982) report the transition from zeolite to analcime is accompanied by a volume reduction of approximately 20 percent. If the abundance of zeolites and clays (70 to 90 percent) in the Calico Hills tuff below the repository horizon as reported by Bish et al. (1984) is accurate, then a zeolite volume reduction initiated by a temperature increase could affect repository rock stability.

In summary, the potential reduction in sorptive capacity of rocks along the flow path from the repository to the accessible environment and in fractures in the repository horizon that are thought to be important to retardation questions the positive findings for geochemistry. Dehydration reaction of smectites lining fractures in the repository horizon and dehydration of zeolites in the tuffaceous beds of the Calico Hills would reduce significantly the ability of the host rock to retard the migration of radionuclides and therefore affect the finding for postclosure rock characteristics. The volume reduction that accompanies mineralogical changes affecting the zeolites, clays, and cristobolite could adversely affect the finding for preclosure rock characteristics.

(9) Rock Stability

The preclosure guideline on rock characteristics (10 CFR 960.5-2-9) considers the support and maintenance requirements relative to the stability of the host rock. DOE finds the host rock requires only minimal support for underground openings, and no extensive maintenance of openings is required. The evidence presented in the Yucca Mountain literature does not support these findings.

The estimated quality of the host rock is poor. According to Dravo (1984) in drill hole USW G-4, the best core index from the repository horizon is 72 percent, which translates into Rock Quality Designation (RQD) of approximately 25-30 percent. This low level of RQD would tend to suggest the need for more than minimal support for the underground openings.

Reliance on rock mass classification systems for arriving at the underground support system may not be appropriate. The classification systems discussed in the EA were developed for single tunnels, and the reliability of these systems has not been adequately verified for mines. In addition, the joint characteristics needed to estimate rock-classification ratings were obtained from only one on-site drill hole and other non-specific data (Dravo, 1984).

The effects of the uncertainties resulting from the lack of data on fractures have not been adequately taken into account in the evaluation of support requirements or the stability of openings. The presence of geologic anomalies such as the lithophysae, faults and breccia, and fracture fillings has not been adequately considered in evaluating support requirements or opening stability.

The thermal effects on the integrity of fully grouted bolts during preclosure have not been adequately considered.

The DOE has used the NTS G-tunnel experience as a basis for concluding that minimal support will be sufficient. Although some similarities between the G-tunnel rock and the host-rock formations may exist (Tillerson and Nimick, 1984), a comprehensive analysis of the similarities has not been performed. Also, the Grouse Canyon tuff encountered in G-tunnel is relatively lithophysae-free and has not been subjected to high repository temperatures.

The limitations associated with the Johnstone et al. (1984) analyses and the effect of resulting uncertainties on the evaluation of roof-support requirements and opening stability in heated conditions have not been adequately considered. DOE has concluded that "The analyses completed to date indicate that the stresses and displacements that are expected to result from the heat emitted by the waste would not lead to significant stability problems in the drifts." However, the referenced thermal analyses (Johnstone et al., 1984) pose several limitations, such as: (1) the model does not accommodate changes in mechanical properties of rock due to elevated temperature; (2) the thermomechanical prediction has not been verified by field data; (3) the in-situ stress data used in the analyses may not be fully applicable because the measurements were based on stress data from only one hole in the saturated zone and not in the unsaturated zone repository horizon; and (4) the rock properties used in the analyses are based on laboratory test data and, therefore, do not adequately account for the rock-mass discontinuities and lithophysal cavities.

These deficiencies in the rock-stability analyses suggest that artificial supports may be required for underground openings, and extensive maintenance of those openings could be required.

(10) Natural Resources

The human interference technical guideline (10 CFR 960.4-2-8) and the natural resources guideline (10 CFR 960.4-2-8-1) address the possibility of future human intrusion of the repository due to the attraction of valuable natural resources. The evidence presented by DOE to date does not support the conclusions that no valuable natural resources are present that would attract human interference. Conversely, available evidence suggests the potential of natural resources at Yucca Mountain that may be attractive for future exploitation.

The evidence is as follows:

1. Yucca Mountain is located at the eastern edge of a buried caldera, which is mineralized along its western and northern boundaries. Common "prospector" sense would suggest the eastern boundary is also mineralized.

2. Drill-hole data from Yucca Mountain indicate gold and silver mineralization is encountered at depth (Spengler et al., 1981). Since many of the deep tuffaceous units are altered, possibly hydrothermally, and pyrite is ubiquitous in these units, other occurrences of mineralization are highly probable. It appears from the known literature that no detailed studies of the drill core for mineral resources have been performed and no systematic geochemical samplings

of surface outcrops or drill cores for assessments of "indicator" elements have been done.

3. The current DOE assessment of mineral-resources potential at Yucca Mountain by Bell and Larson (1982) was strictly a literature search with no ground-truth examinations. DOE's positive statements about the lack of mineral-resource potential do not consider the data uncertainty inherent in literature studies.

4. The geothermal potential at Yucca Mountain is unknown. Above-normal ground-water temperatures are suggestive of a thermal source, possibly below current drilling depths. Geothermal temperatures lower than the requirements for power plant use do not negate the resource for other lower temperature uses.

5. Recently, explorationists have reported on the possible petroleum potential of the overthrust belt in central Nevada. The belt has already been responsible for major oil finds in northern Nevada. Projections of regional geologic mapping places the overthrust belt beneath the site area suggesting the potential for hydrocarbons at Yucca Mountain.

6. Ground-water quality beneath Yucca Mountain is well within current water-quality standards for domestic consumption. The statement in the EA that there is no credible potential for use of Yucca Mountain water resources is unfounded. Since agricultural areas near the site (Amargosa Valley) are fully appropriated, any future development of the area for agriculture, industry, or domestic use may necessitate the import of water. Yucca Mountain is a possible source for future water supplies.

7. The EA suggests there is no possibility of contamination of the deep carbonate aquifer because of an upward gradient from the carbonate aquifer to the alluvial-tuff aquifer. This statement ignores the possibility that in the future the deep carbonate aquifer may be tapped for water supplies for southern Nevada and could reverse the upward gradient. This change could adversely impact the ground-water flow systems important to waste isolation.

The above evidence suggests Yucca Mountain may have some natural resource potential; but the potential is unknown presently, and there may be some potential for future exploitation of ground-water supplies.

(11) Water Rights

The fact that Yucca Mountain is not a Congressionally established reservation has a substantial impact on water rights that may be required for the construction and operation of a repository or any related activities. The federally reserved water-rights doctrine is not intended to authorize water usage on behalf of a federal agency in the absence of an established reservation. DOE, therefore, must acquire water rights from the Nevada State Engineer like any other appropriator.

The EA notes that "The ground water in the tuff aquifer underlying Yucca Mountain (see Figures 2-5 and 2-6) is part of the Alkali Flat-Furnace Creek Ranch ground-water basin, which discharges in Alkali Flat or Death Valley (Waddell, 1982)."

A figure in the EA shows the direction of surface flow of water from the Yucca Mountain site through Amargosa Valley to Alkali Flat, a flow similar to the ground-water flow. The EA suggests that water usage in the Amargosa and Pahrump Valleys south of the proposed repository site presently exceeds supply so that "An overdraft (i.e., long-term withdrawal exceeding replenishment) has existed, and the State Engineer has opposed certification of new permits for irrigation." It is a requirement of Nevada law that the State Engineer must reject new applications for water rights for any purpose where there is no unappropriated water. The DOE does not recognize this problem.

Also in the EA the statement appears that "Thordarson (1983) reports that the water level in well J-13 has remained essentially constant after long periods of pumping between 1962 and 1980. The large volume of water produced from this well (approximately 494,000 m3 (400 acre-feet) per year), along with the minor drawdown during pumping tests (Young, 1972), suggest the aquifers underlying Yucca Mountain can produce an abundant quantity of ground water for long periods without lowering the regional ground-water table. Site-characterization activities are expected to use substantially less than 494,000 m^3 (400 acre-feet) per year." Whether or not DOE may acquire a Nevada water-right permit is a matter that must be decided by the Nevada State Engineer. The fact that the level in well J-13 remains stable during pumpage has nothing to do with a water right and little to do with whether prior water rights are being infringed upon in violation of State law.

Water usage is predicted at 180 acre-feet/year in the EA for vertical emplacement of a proposed repository. It is not stated in the EA whether water rights exist for well J-13 or, if so, what limitations are extant as to place of use, manner of use, diversion rate, or the consumptive use. These are facts that must be resolved by DOE in order to adequately assess the hydrologic impacts of locating a repository and the socioeconomic impacts due to repository water use particularly if existing water rights must be condemned to satisfy the water requirements.

The deficiencies of the DOE analyses are obvious with respect to withdrawal of ground water. Because of the foregoing considerations, the cryptic conclusion from the EA is insufficient as an environmental assessment. It states: "The regional effects of withdrawing ground water for a repository at Yucca Mountain are expected to be negligible." That statement must be reevaluated particularly in light of the fact that it does not appear that DOE has any present right to divert water for repository-siting purposes.

CONCLUSIONS REGARDING LICENSABILITY OF THE YUCCA MOUNTAIN SITE

The overriding objective of the Nuclear Waste Policy Act of 1982 is to isolate the nation's high-level radioactive waste from the accessible environment for thousands of years. The Act directs the Department of Energy to accomplish this objective by siting and constructing two deep geologic repositories in locations that will assure long-term isolation. The actual test that will ultimately determine if DOE has accomplished its mission will be reflected in the thousands of years of postclosure experience with the decommissioned repository.

Because it is impossible to judge actual performance over such a lengthy span of time from a vantage point in the present, DOE must rely on institutional analyses, before the fact, to guide it in choosing sites and otherwise making plans that will afford the highest probabilities for successful containment of these materials.

The institutional analyses that the Nuclear Waste Policy Act requires involve: (1) pre-established radioactivity-release limits around which any site-selection methodology must be designed; (2) objective guidelines for determining overall site suitability; (3) conservative and objective application of those guidelines against objectively gathered data of sufficient volume and reliability to guarantee credibility of conclusions; (4) comparative analyses of all available siting options, notwithstanding institutional inertia; and (5) proof that sites ultimately selected will be safe from a public health and environmental standpoint and will meet the standards of licensing imposed by the Nuclear Regulatory Commission.

The State believes that the Department of Energy's nuclear waste program to date does not assure that the best sites, in terms of the ability to isolate nuclear waste, will finally be selected. Pre-established radioactivity-release limits are not yet established and have, therefore, not been used in developing siting criteria; the siting guidelines themselves are not objective; and data of insufficient reliability and volume have been relied upon in Environmental Assessments to draw conclusions as to the adequacy of sites. In addition, many important issues relative to the Yucca Mountain site have not been analyzed at all (certain local and Indian government concerns, monitored retrievable storage) while others have been inadequately addressed (volcanic activity, tectonics, fault activity, geohydrology, climate change, geochemistry, radionuclide retardation, mineral stability, host-rock stability, natural resources, transportation, defense waste, the two-phased repository approach, socioeconomic issues, land and water issues). Certain sites initially under consideration have been arbitrarily excluded from the required comparative evaluation while crucial siting decisions have been colored by earlier site choices that were based on non-geologic considerations.

Such defects in institutional analyses suggest that it may be difficult for DOE to demonstrate that the Yucca Mountain site can meet requisite health, safety, and environmental criteria. In fact, DOE's site-selection process may ultimately produce a site that is not licensable under NRC standards. Comments of NRC staff relative to Yucca Mountain suggest that this may very well be the case in terms of the Nevada site. Generally, these comments indicate that (1) the full range of uncertainty that exists about factors affecting site suitability is not recognized by DOE and (2) the DOE makes conclusions and findings about the site that are not supported by existing data or that existing data are not conservative.

NRC's comments regarding fault activity at Yucca Mountain, volcanism and hydrothermal activity, ground-water travel-time calculations, free drainage of host rock, ground-water chemistry of the unsaturated zone, and other geochemical and hydrologic issues suggest that there may be significant problems in licensing because all of the issues raised relate directly to the isolation capacity of the site.

State comments identify many of the same problems and issues the NRC staff has focused attention on. In reviewing documents for Yucca Mountain, it is readily apparent that the entire approach to institutional analysis DOE has employed to date must be corrected if the technical analysis is ever to lead to the selection of a licensable site--one that can be shown to be capable of isolating high-level radioactive waste for thousands of years while adequately protecting the environment and guaranteeing the health and safety of the public.

Summary and Analysis of S. 839, the "Economic Incentives and MRS Authorization Bill" Introduced by Senator Johnston and Co-Sponsored by Senator McClure

Brief Summary

1. The bill establishes an alternative procedure for the location of a repository or MRS facility. Under this procedure, the Secretary of Energy may enter into an "incentive agreement" with a State or affected Indian Tribe for a repository site or MRS facility, thereby avoiding characterization of more than one site for each project.

2. In consideration for entering into such an agreement, the States or affected Indian Tribes would receive cash payments according to a sequence specifically set forth in the bill, the States' portion to be shared in part with "units of general local government." In addition to hosting the repository or MRS facility, the States and/or Indian Tribes would give up their right to veto the selection of a site within their borders, as provided under the Nuclear Waste Policy Act of 1982 (NWPA), the right to judicial review of "issues covered by the [incentive] agreement," the right to NEPA Review of activities carried out under the agreement, and the right to sue the Secretary for default of the agreement for any reason.

3. The bill would establish a seven-member "Review Panel," with representation from the States or affected Indian Tribes (2 members), local governments (2 members), ratepayers (1 member) and the "public interest" (1 member), the last two of which and the chairman to be selected by the Secretary. The Review Panel's portfolio would be to "advise" the Secretary on specific issues, evaluate performance, make recommendations, and participate in the review of data on environmental, demographic, and socioeconomic conditions at the site.

4. The bill would remove the 70,000 metric ton limit on emplacement of waste in the repository and would provide that the Secretary shall not be required to develop a second repository, but shall report to Congress on the need for one at some time between January 1, 2001 and January 1, 2004.

5. The bill would specifically authorize construction of a MRS facility.

Analysis

1. **Senator Johnston's Rationale for the Bill:**

   - to save on site characterization costs by characterizing potentially only one site for a repository and one site for a MRS (Statement in Congressional Record at p. S3872 and March 25, 1987 Press Conference);

   - to save the costs and delays of litigation over site selection (March 25, 1987 Press Conference);

   - to develop a "new consensus" on the development of storage and disposal facilities for the nation's waste (Statement in Congressional Record at p. S3871 and March 25, 1987 Press Conference);

   - to address any "perceived harm" from the location of a HLW facility because "nuclear waste as a scientific challenge is easy to solve and involves no great harm to the area around it" (March 25, 1987 Press Conference); and

   - to avoid rewriting the entire NWPA, because "the process is working." In Senator Johnston's view, the States' complaints stem not from the process, but from the fact that in the end, they may be the recipients of nuclear waste (March 25, 1987 Press Conference).

2. **Eligible Parties to the Incentive Agreement**

   - Repository Incentive Agreement

     -- The Secretary is authorized to enter into an incentive agreement with the governor of the States in which are located the three sites recommended for characterization, i.e. Nevada, Washington, or Texas. (Secretary not authorized to enter into negotiations with any Indian Tribes affected by the first-round site recommendations decisions.)

     -- In addition, for 12 months following enactment of this bill, the Secretary may seek to enter into an incentive agreement with any State or affected Indian Tribe that can demonstrate "to the satisfaction of the Secretary" that the State or Tribe has a site suitable for characterization for a repository.

     -- The State or affected Indian Tribe can enter into such an agreement only if the State Attorney General or the chief legal officer of the Tribe certifies "that the laws of the State or Indian Tribe provide adequate authority for that entity to enter into the incentive agreement." (Whether a State may have such authority under its Constitution is an open question.)

- -- Neither the Secretary's decision to enter or not enter into an agreement, nor the Secretary's determination of a site's suitability for characterization is subject to judicial review.
- -- It is highly improbable and totally unrealistic that any State or Tribe could demonstrate the suitability of an as yet unstudied site for characterization within 12 months.

- MRS Facility Incentive Agreement
  - -- The Secretary is authorized to enter into negotiations with the Governor of a State, or the governing body of any affected Indian Tribe, if the State or reservation has a site that the Secretary determines to be suitable for a MRS facility.
  - -- In addition, for 12 months following enactment of this bill, the Secretary is authorized to seek to enter into an incentive agreement with any State or Tribe that can demonstrate "to the satisfaction of the Secretary" that the State or Tribe has a site suitable for the construction of a MRS facility.
  - -- The State or affected Indian Tribe can enter into such an agreement only if the State Attorney General or the chief legal officer of the tribe certifies "that the laws of the State or Indian Tribe provide adequate authority for that entity to enter into the incentive agreement." (Whether a State may have such authority under its Constitution is an open question.)
  - -- Neither the Secretary's decision to enter or not enter into an incentive agreement, nor the Secretary's determination of a site's suitability for construction of a MRS facility is subject to judicial review.
  - -- It is highly improbable that a State or Tribe could demonstrate the suitability of an as yet unstudied site for construction of a MRS facility within 12 months.

3. Elements of the "Incentive Agreement" between a State or Tribe and the Secretary of Energy

- Secretary of Energy's rights and obligations:
  - -- to enter into negotiations for an incentive agreement with a State or Tribe for a repository or a MRS facility
  - -- to make payments from the Nuclear Waste Fund to a State and/or Tribe according to a "Benefits Schedule" set forth in the bill:

"Benefits Schedule"

Event	Payment (in millions of dollars)	
	(MRS)	(Repository)
Upon Execution of Incentive Agreement:	$50	$100
Annual Payments Prior to First Spent Fuel Receipt:	$20	$ 50
Upon First Spent Fuel Receipt:	$50	$100
Annual Payments After First Spent Fuel Receipt Until Closure of Facility:	$50	$100

- **States' or Tribes' rights and obligations:**
  - **-- Any state receiving payments under an incentive agreement is required to turn over one-third of all such payments to "units of general local government affected by the repository or MRS facility." The term "units of general local government" is defined in the 1982 NWPA as "any borough, city, county, parish, town, township, village, or other general purpose political subdivision of a State." Neither the 1982 NWPA nor this bill defines what is such a unit of general local government "affected by the repository or MRS facility."**
  - **-- The bill requires the waiver of the right established under the NWPA to judicial review of "issues covered by the agreement."**
    - **-- "issues covered by the agreement" is potentially very broad**
    - **-- the right to judicial review of constitutional challenges is probably unaffected by such a provision**
    - **-- the status of the rights of others not party to the agreement to judicial review of "issues covered by the agreement" is unclear; the standing of such others to sue under contract law is also unclear.**

- -- The bill also requires the waiver of veto rights over the DOE recommendation of a site for application for a facility construction authorization provided in the 1982 NWPA.
- -- The bill provides the right to "participate in the design of the repository or MRS facility and in the preparation of documents required under law or regulation governing the effects of the facility on the public health and safety"
    - -- "participate" not defined in 1982 NWPA or in this bill
    - -- "design" not defined in 1982 NWPA or in this bill

- States or affected Indian Tribes may only receive payments in accordance with an incentive agreement. (i.e., if a site is selected for construction of a repository, and the State in which the site is located has not entered into an incentive agreement with the Secretary, the State will not receive any payments.)
- The bill provides that the Secretary's signature on a valid incentive agreement shall constitute a "commitment by the United States to make payments in accordance with such agreement." Whether Congress can so commit the United States for such future payments may be subject to challenge.
- Both parties are required to "take steps to expedite characterization of the facility, preparation of necessary documents, and the like."

4. **Incentive Agreement Termination Rights**

- Secretary may terminate the agreement for any one of five reasons:
    - -- the site under consideration is disqualified for its failure to comply with guidelines and technical requirements established by the Secretary in accordance with the NWPA, as amended;
    - -- the Secretary determines that the NRC cannot license the facility within a reasonable time;

- -- the State or affected Indian Tribe fails to adhere to the agreement in a manner the Secretary finds to be a substantial breach of the agreement;

- -- the Secretary determines the State or affected Indian Tribe to be dilatory in executing its responsibilities under the agreement; or

- -- the State or affected Indian Tribe defaults under the agreement.

- The State or affected Indian Tribe may terminate the agreement for only two reasons:

  - -- if the Secretary disqualifies the site under consideration for its failure to comply with technical requirements (but not for failure to comply with the guidelines) established by the Secretary in accordance with the NWPA, as amended; or

  - -- if the Secretary determines that the Commission cannot license the facility within a reasonable time.

- If the State or affected Indian Tribe defaults under the agreement, it must repay the money paid, plus interest at a rate determined by the Secretary.

- Because the State or Indian Tribe waives its right to judicial review, it cannot sue the Secretary for its default on the agreement, e.g. for failure to follow the guidelines or technical requirements of the NWPA.

- Third parties, however, if they can establish standing, may sue the Secretary for such violations of the NWPA.

5. **Establishment of a Review Panel**

- The bill would establish a Review Panel for each incentive agreement, consisting of 6 members, plus a chairman to be appointed by the Secretary:

  - -- 2 members appointed by the governor of the State or governing body of the affected Indian Tribe;

  - -- 2 members selected by units of general local government affected by the respository or MRS facility;

  - -- 1 member, appointed by the Secretary, to represent ratepayers; and

  - -- 1 member, appointed by the Secretary, to represent "other public interests".

- Duties of the Review Panel:

  - to advise the Secretary on such matters as design, construction, operation, and decommissioning of the facility;

  - to evaluate performance;

  - to recommend corrective actions to the Secretary;

  - to assist in the presentation of State or affected Indian Tribe perspectives to the Secretary; and

  - to participate in the planning for and review of preoperational data on environmental, demographic, and socioeconomic conditions at the site and in the local community.

- **The Secretary is required to "make available promptly any information in the Secretary's possession requested by the Panel or its Chairman".**

- **The Panel is not empowered actually to participate in decisionmaking.**

- **The Panel is not empowered to review health and safety effects or scientific or technical conditions at the site or in the local community.**

6. Authorization of MRS

- **The bill explicitly authorizes construction of an MRS facility, pursuant to an incentive agreement.**

7. Second-Round Repository

- **While incentive agreements for the first repository and the MRS are in effect, the Secretary is not required to pursue development of a second repository, as originally required in Title I of the 1982 NWPA.**

- **The 70,000 metric ton limit is not in effect as long as incentive agreements for a first repository and MRS are in effect.**

- **The Secretary is required to report to Congress on or after January 1, 2001, but not later than January 1, 2003 regarding the need for a second repository.**

8. **Miscellaneous Provisions**

- The purpose of the bill is to establish an alternative means for the development of repositories and MRS facilities, and is not to affect the procedures established in the 1982 NWPA.

- The National Environmental Policy Act of 1969 shall not apply "in implementing the authorities contained in this title".

  -- Arguably, this provision only applies to the Secretary's and States and/or affected Indian Tribe's authority to enter into an incentive agreement, because that is the only "authority" discussed in this title.

  -- The provision might also be read to include all the authorities set forth in the incentive agreement, which is itself a product of this "title".

- The NRC shall not consider any changes in the schedule for opening a repository or MRS resulting from the implementation of this title in any proceedings, including waste confidence proceedings, related to civilian nuclear power reactors.

[illegible]

December 4, 1986

ORGANIZATIONS WHO HAVE PASSED RESOLUTIONS EXPRESSING OPPOSITION TO A NEVADA NUCLEAR WASTE REPOSITORY

Nevada League of Cities, August 16, 1986.

Nevada Parent Teacher Association, approved at Board of Managers Meeting on January 12, 1985; approved by Convention Delegates on April 27, 1985.

Clark County Board of Commissioners, January 8, 1985.

City Council of Boulder City, February 12, 1985.

Reno City Council, January 14, 1985.

Nevada Commission on Tourism, opposed dump site "until such time as it is shown that there will be no adverse impact on the state's tourism industry", February 14, 1985.

Las Vegas City Council, December 27, 1984.

City of Lovelock, January 15, 1986.

Citizen Alert and Western Shoshone Nation have both expressed opposition to the location of a repository in Nevada orally and in writing but not in Resolution form.

sjc

RESOLUTION OPPOSING THE U.S. DEPARTMENT OF ENERGY SELECTION OF YUCCA MOUNTAIN AS THE NATIONS FIRST HIGH LEVEL NUCLEAR WASTE RESPOSITORY

WHEREAS, the United States Department of Energy has recently designated YUCCA MOUNTAIN, NEVADA, as one of three principle sites for the construction of a High Level Nuclear Waste Repository; and

WHEREAS, the tremendous growth in the generation and movement of High Level nuclear waste materials will directly impact the entire Nevada transportation network, including preferred shipping routes that traverse densely populated urban areas; and

WHEREAS, it is felt that the Department of Energy's method of selection of Yucca Mountain has been done on an arbitrary and capricious basis; and

WHEREAS, the Nevada Congressional Delegation, the Governor of Nevada, and the Nevada League of Cities recognize the serious shortcomings of the Department of Energy selection process, which if selected, could result in serious harm to the State's tourism economy, affect the public health and safety of Nevada citizens and visitors, and could severely impact the State and local efforts to diversify our economic base by attracting clean nonpolluting industry, and could severely strain the social fabric of our State and communities; and

WHEREAS, the location of a high level nuclear waste repository at Yucca Mountain could adversely impact the infra-structure of Nevada's cities, including roads, railways, schools, housing and flood control; and

WHEREAS, the Department of Energy through gross mismanagement and blatant disregard of the High Level Nuclear Program, as indicated by the Nuclear Waste Policy Act of 1982, has jeopardized the integrity of the entire repository process;

NOW, THEREFORE, BE IT RESOLVED that the Nevada League of Cities strongly supports the position taken by the Nevada Congressional Delegation and the Governor of the State of Nevada in firmly opposing the locating of a High Level Nuclear Waste repository at Yucca Mountain.

BE IT FURTHER RESOLVED that the Nevada League of Cities strongly recommends that Section 222 of the Nuclear Waste Policy Act of 1982, which states that the Secretary of Energy must continue a program of research and development of alternative means to store, transport and retrieve nuclear wastes be strictly pursued henceforth.

DATED and APPROVED this 16th day of August, 1986.

Robert S. Ferraro /s/

ROBERT S. FERRARO, President
Nevada League of Cities

ATTEST:

Richard Snyder /s/

Secretary, Nevada League of Cities

Nevada Parent Teacher Association
2831 Palomino Lane, Las Vegas NV 89107 (702) 878-8517

May 15, 1985

To Nevada State Legislators and
Congressional Delegation in Washington D.C.

Please be advised that on Saturday, April 27, 1985, 169 voting delegates of the Nevada PTA, representing 120 units from throughout the state who represent over 26,000 members, voted overwhelmingly in favor of the enclosed Resolution.

The PTA Board of Managers addressed the issue in January of this year. The Resolution was drafted and a committee assigned to study the related issue. The Resolution was sent to all Unit Presidents to share with their individual members. In addition, a workshop was held at our Annual Convention last weekend in Tonopah wherein the United States Department of Energy, the State Nuclear Waste Project Office and Physicians for Social Responsibility were represented. During the convention, information was disseminated to all delegates regarding the pros and cons of the nuclear dump site issue.

After a lively discussion, the delegates enthusiastically supported the resolve to oppose establishment of a high level nuclear waste dump within the State of Nevada. It was further resolved to strongly encourage our congressional delegation, our governor and our state legislators to do everything within their power to defeat any federal action to establish a high level nuclear dump site in the State of Nevada.

Therefore, on behalf of the Nevada PTA, I strongly urge your opposition to the establishment of a high level nuclear waste dump within the State of Nevada.

Following tradition, the Nevada PTA will use its energies and efforts to make this Resolution a reality.

Sincerely,

Wendell Newman
President, Nevada PTA

RECEIVED

WN/amp
Enc.

Copy to Jim Hay 4/9/86 -

helping tomorrow TODAY...

Nevada Parent Teacher Association
2831 Palomino Lane • Las Vegas, Nevada 89107 • (702) 878-8517

RESOLUTION ON NUCLEAR WASTE DUMP SITE

Approved at Board of Managers Meeting
January 12, 1985

And

Approved by Convention Delegates
April 27, 1985

WHEREAS, high level nuclear waste materials are by-products of nuclear reactors, none of which are located within the State of Nevada, and

WHEREAS, the State of Nevada has more than fulfilled its patriotic duty by hosting above and below ground atomic and nuclear testing facilities since 1950, and

WHEREAS, the State of Nevada has furthermore hosted one of the nation's three low level nuclear dump sites; and

WHEREAS, there is a serious concern that the past atomic and nuclear experimentation by the federal government within the State of Nevada has caused serious illness and death to citizens of the States of Nevada and Utah, and

WHEREAS, hosting high level nuclear waste materials causes extreme hazards to the citizens of the State of Nevada through the transportation of such materials on the highways and railways across our state, and

WHEREAS, the federal government has not shown that the Yucca Mountain site is sufficiently safe and suitable for high level nuclear waste, and

WHEREAS, the federal government has prohibited the State of Nevada from conducting its own independent suitability studies, and

WHEREAS, a high level nuclear waste dump creates a great danger for our children and future generations; therefore, be it

RESOLVED that the Nevada State PTA adamantly opposes the establishment of a high level nuclear waste dump within the State of Nevada, and be it further

RESOLVED that the Nevada PTA should encourage our congressional delegation and state Governor and Legislators to do everything within their power to defeat any federal action to establish a high level dump site in the State of Nevada.

RESOLUTION

(of the Clark County Board of Commissioners)

WHEREAS, the Nuclear Waste Policy Act of 1982 delineates a procedure and time schedule for the establishment of the nation's first geologic repository for the storage of high level nuclear waste; and

WHEREAS, one of three sites under final consideration for siting of the repository is Yucca Mountain adjacent to the Nevada Test Site; and

WHEREAS, as a result of the location of Yucca Mountain and the limited transportation network in the southwest United States, major access to Yucca Mountain will be through the heavily populated Las Vegas Valley, which will be home to approximately one million people and a destination for 25 million visitors by the year 2000; and

WHEREAS, an accident within the highly developed Las Vegas Valley would create a direct physical and economic risk for residents and visitors alike; and

WHEREAS, Nevada already has contributed substantially to the United States nuclear program in the form of the nation's nuclear weapons testing center.

NOW, THEREFORE, BE IT RESOLVED by the Clark County Board of Commissioners that the Board opposes the location of a high-level nuclear waste repository in Southern Nevada.

PASSED, ADOPTED, AND APPROVED this 8th day of January, 1985.

CLARK COUNTY, NEVADA

By: Thalia M. Dondero
Thalia M. Dondero, Chairman
Board of County Commissioners

ATTEST:
Loretta Bowman
LORETTA BOWMAN, County Clerk

/sg

REC
FEB
NUCLEAR WASTE PROJECT OFFICE

RESOLUTION NO. 118

RESOLUTION OF THE CITY COUNCIL OF BOULDER CITY, NEVADA REFLECTING BOULDER CITY'S POSITION WITH REGARD TO PROPOSED NUCLEAR WASTE SITE ON YUCCA MT.

WHEREAS, the Nuclear Waste Policy Act of 1982 delineates a procedure and time schedule for the establishment of the nation's first geologic repository for the storage of high level nuclear waste; and

WHEREAS, one of three sites under final consideration for siting of the repository is Yucca Mountain adjacent to the Nevada Test Site; and

WHEREAS, as a result of the location of Yucca Mountain and the limited transportation network in the southwest United States and into Nevada, two of the major accesses to Yucca Mountain will be Highways 93 and 95, potentially over Hoover Dam and through Boulder City; and

WHEREAS, an accident on the site of Hoover Dam and the heavily traveled U.S. Highways 93 and 95 through Southern Nevada, which carry millions of tourists each year, would create a direct physical and economic risk for residents as well as travelers alike; and

WHEREAS, Nevada already has contributed substantially to the United States nuclear program in the form of the nation's nuclear weapons testing center;

NOW, THEREFORE, BE IT RESOLVED by the City Council of Boulder City, Nevada, that it opposes the location of a high-level nuclear waste repository in Southern Nevada.

APPROVED AND ADOPTED this 12th day of February, 1985.

/s/ Robert S. Ferraro
Robert S. Ferraro, Mayor

ATTEST:

/s/ Delia H. Estes
Delia H. Estes, City Clerk

2-12-85
Regular Mtg.
City Council

13. RESOLUTION NO. 1185 RECOGNIZING TEAMSTERS LOCAL 14 AS THE REPRESENTATIVE FOR CERTAIN CLASSIFIED SUPERVISORY PERSONNEL:

RES. 1185
APPROVED FOR
UNION REP. -
LOCAL 14

The Acting City Manager's memorandum of February 6, 1985 to the Councilmembers reported on the request for union representation by five employees in the supervisory category, and he reported on the procedure at this time. Public Works Director Names had some problems including the Senior Equipment Mechanic, which was explained to his satisfaction. Councilman Tilman moved TO APPROVE RESOLUTION NO. 1185; second by Porter; APPROVED unanimously.

16. RESOLUTION NO. 1187 RE PROPOSED NUCLEAR WASTE SITE ON YUCCA MOUNTAIN:

Resolution
Protesting
Yucca Mt.
as Nuclear
Site

Councilman Porter proposed Resolution No. 1187 as a result of his membership on the Environmental Quality Review Board which has received comments on the proposed use of Yucca Mountain for nuclear waste site. He said the objection is based on the traffic route which would be used for transportation of the low level material, and questioned the responsibility and liability in the event of a nuclear accident. Resolution No. 1187 was referred to by Councilman Porter for amendments in paragraph 3, the second half to read "two of the major accesses to Yucca Mountain will be Highways 93 and 95, potentially over Hoover Dam and through Boulder City; and"; and in the fourth paragraph, second line to read "traveled U.S. Highways 93 and 95 through Southern Nevada; which carry millions of tourists...."

MOTION TO
ADOPT RES.
NO. 1187

Councilman Tilman moved TO ADOPT RESOLUTION NO. 1187 AS AMENDED; second by Porter. Councilman Tilman said he would have introduced such a measure if it had not come from Councilman Porter.

ıpport for
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ıclear Waste
ite

Comments in favor and supporting the site location at Yucca Mountain were made by Messrs. Christiansen and Garrett, and in opposition of the Resolution; and against the proposed site was Mr. Bob Piper.

The motion to approve Resolution No. 1187 was APPROVED unanimously.

Mayor Ferraro called a 5-minute recess at this time; the meeting was in recess from 8:15 p.m. to 8:20 p.m.

17. CITY MANAGER'S REPORT:

A. STORM DAMAGE UPDATE:

(1) STATUS OF RESTORATION PROJECT BY G. C. WALLACE:

deral Hwy.
m. Funds
proved for
ban Streets
ffering
ood Damage

The City Engineer's February 12, 1985 memorandum, addressed to the Acting City Manager was on the table at this time, with attached copies of the State Department of Transportation letter of January 11, 1985, and the U.S. Department of Transportation's letter of December 21, 1984, relating the approval of the State's request for emergency relief funding. City Engineer Henry noted the funds are for urban street restoration of flood damage, which requires further preparation of specifications and plans by G. C. Wallace.

B. REQUEST FOR ADDITIONAL FUNDING FROM STATE TAX COMMISSION:

: Comm.
ȝates Add'l.
ıds

Public Works Director Names and City Engineer Henry reported on their appearance before the State Tax Commission requesting more funds from the Supplemental City/County Relief Tax Reserve Fund, which was turned down, as reported in the Director's memorandum.

RECEIVED
NUCLEAR WASTE PROJECT OFFICE

RESOLUTION NO. 4056

INTRODUCED BY COUNCILMEMBER Howard

A RESOLUTION CONFIRMING OPPOSITION TO LOCATION OF A NUCLEAR WASTE DEPOSIT FACILITY IN SOUTHERN NEVADA

WHEREAS, the United States Department of Energy has tentatively identified Yucca Mountain, located in Southern Nevada, as one of three possible sites for the establishment of a National Nuclear Waste Deposit Facility; and

WHEREAS, the development of Yucca Mountain as a radioactive waste dump would require the transportation of such waste through Reno and Washoe County; and

WHEREAS, a tourist-recreation based economy could be seriously harmed by an accident involving high-level radioactive material and the resulting media coverage; and

WHEREAS, Nevada has contributed substantially to the United States nuclear program by providing the nation's site for nuclear weapons testing.

NOW, THEREFORE, BE IT RESOLVED by the Reno City Council that we are opposed to the location of a high-level nuclear waste deposit facility in Southern Nevada.

BE IT FURTHER RESOLVED that we are opposed to the transportation through Reno and Washoe County of high level radioactive waste generated in other areas on route to a waste disposal site.

On motion of Councilmember Howard, seconded by Councilmember Scott, the foregoing Resolution was passed and adopted this 14th day of January, 1985, by the following vote of the Council:

AYES: Howard, Scott, Lehners, Pine, Nunez, Sferrazza

NAYS: None

ABSTAIN: None ABSENT: Thornton

APPROVED this 14th day of January, 1985.

Pete J Sferrazza
MAYOR OF THE CITY OF RENO

ATTEST:

CITY CLERK AND CLERK OF THE CITY
COUNCIL OF THE CITY OF RENO, NEVADA

NEVADA
NEVADA'S GOT IT
COMMISSION ON TOURISM

RICHARD H. BRYAN
Governor

LT. GOV. ROBERT A. CASHELL
Chairman

Commissioners:
Dan L. Bilbao, Jr.
Barrie Brunet
Jean Ford
James D. Santini
William C. Thornton
Claudine Williams
Thomas J. Milligan
Frank C. Sain

STEPHEN B. RICHER
Executive Director

"**WHEREAS**, the federal government has identified Nevada as one of three potential locations for a nuclear waste repository, along with Washington and Texas; and

"**WHEREAS**, the Department of Energy's Environmental Assessment of a Nevada dump site points to an uncertain impact on the tourism industry; and

"**WHEREAS**, interim reports of the impact on tourism are inconclusive and call for further study; and

"**WHEREAS**, tourism and travel represent Nevada's number one industry, in terms of employment and tax base; and

"**WHEREAS**, there is a lack of specific information concerning the possible impact of the nuclear dump on tourism and travel in Nevada; and

"**WHEREAS**, the Commission on Tourism is of the opinion that selection of the state of Nevada as a nuclear dump site would present a major marketing problem;

"**NOW, THEREFORE, BE IT RESOLVED**, that the Nevada Commission on Tourism go on record opposing the nuclear waste dump until such time as it is shown that there will be no adverse impact on the state's tourism industry.

"**BE IT FURTHER RESOLVED**, that the Nevada Commission on Tourism, in the strongest possible terms, urge the Department of Energy to provide for a detailed and specific survey of public attitudes and expectations concerning the impact of a nuclear waste storage repository on Nevada's tourism industry; and

"**FURTHER**, that said study be conducted as promptly as possible and include studies of both the current visitor base and the potential visitor base; and

"**FURTHER**, that the study be conducted independently by a qualified research firm in order to secure the most objective possible conclusions and determinations."

This resolution, passed by a majority of Commission members present, is extracted from draft minutes from 2/14/85 Commission on Tourism meeting. These minutes are not official until formally approved by the Commission on Tourism at the 3/14/85 meeting.

Capitol Complex, Carson City, Nevada 89710 • (702) 885-4322

Extracted from draft minutes of Commission on Tourism meeting, February 14, 1985 (note: these minutes are not official until formal approval by the Commission on Tourism)

NUCLEAR DISPOSAL SITE

Mr. Richer introduced Bob Loux, Director of the Nuclear Waste Project Office, gave a brief presentation on the background and timetable for the U.S. Department of Energy's selection of a site for a high-level nuclear waste disposal site. He indicated several concerns being looked into by his office, which include the ability and credibility of the U.S. Energy Department to make the site selection; the objectivity and legality of the siting process; concerns over "states' rights" in the selection process; concern over transportation of materials to the site; and the liability of the state once a site is selected. Commissioner Santini indicated that the intent of the original legislation was that states should have an integral role in the selection process. He emphasized that the site has not yet been determined to be suitable for long-term storage of high-level nuclear waste, and numerous additional geologic and hydrologic studies need to be conducted. Chairman Cashell inquired if studies on potential benefits to the state were also being conducted. Mr. Loux responded that his office was currently identifying factors, both plus and minus, to be analyzed and formal studies on these would begin in 1986. Mr. Loux indicated that once a site had been determined, then the Nuclear Regulatory Commission would have to analyze data prior to the issuance of a license to construct and operate a disposal facility. He said that the sites would be narrowed to three by the end of 1985, and then an in-depth study of those three would be undertaken prior to a final selection in about 1991. After licensing, construction would begin around 1994. Storage of nuclear waste would begin somewhere after the turn of the century. Mr. Loux summed up that the prime issue was perhaps state-federal government relationships relating to the involvement of the state in the selection process, including the conducting of independent studies on the proposed site.

There was some discussion relating to political factors which might possibly have an effect on the selection process regardless of the suitability determinations of a particular site.

Chairman Cashell indicated that he felt it was inappropriate at this time for the Commission to take any sort of stand, as Nevada was still only one site among many being considered, and all the data and information was not in pertaining to economic impact or benefits as well as geologic and environmental issues. He added that the first possible veto possible by the state would be after narrowing of the selection process to one site, in about 1991 and different elected and appointed individuals would be in office at that point in time; however, Nevada's small size made it unlikely that a state veto would not be overridden by the Congress. He said that he felt perhaps it was the Legislature who should take a position, not another entity.

Commissioner Santini asked if any tourism impact studies had been conducted. Mr. Loux responded that a cursory analysis had been done as part of the U.S. Department of Energy's current environmental assessment, but reached no conclusions other than to state further study was needed.

After citing problems he had noted with operation of a dump site in Idaho, Commissioner Bilbao made the motion, seconded by Commissioner Santini:

That he is against a nuclear waste site in the state of Nevada.

Commissioner Ford asked clarification of the motion--was it intended that the Commission endorse Commissioner Bilbao's personal opposition to a dump site in Nevada or was it for the Commission to go on record as opposing the site?

Commissioner Bilbao indicated that he would like the Commission to state that they were against the dump site as it was not of benefit to the state.

Commissioner Thornton and Commissioner Bilbao agreed that taking a stand might not have any affect on the final site determination, but at least the Commission could go on record as opposing the site, since it would seem to be a current marketing problem even though selection would be many years in the future.

Commissioner Thornton drew the Commission's attention to three proposed resolutions. After brief discussion, Commissioner Bilbao withdrew his earlier motion and Commissioner Thornton amended one of the proposed resolutions and made the following motion, seconded by Commissioner Santini:

That the Commission on Tourism adopt a resolution as follows:

"**WHEREAS**, the federal government has identified Nevada as one of three potential locations for a nuclear waste repository, along with Washington and Texas; and

WHEREAS, the Department of Energy's Environmental Assessment of a Nevada dump site points to an uncertain impact on the tourism industry; and

WHEREAS, interim reports of the impact on tourism are inconclusive and call for further study; and

WHEREAS, tourism and travel represent Nevada's number one industry, in terms of employment and tax base; and

WHEREAS, there is a lack of specific information concerning the possible impact of the nuclear dump on tourism and travel in Nevada; and

WHEREAS, the Commission on Tourism is of the opinion that selection of the state of Nevada as a nuclear dump site would present a major marketing problem;

NOW, THEREFORE, BE IT RESOLVED, that the Nevada Commission on Tourism go on record **opposing the** nuclear waste dump until such time as it is shown that there will **be no adverse** impact on the state's tourism industry.

BE IT FURTHER RESOLVED, that the Nevada Commission on Tourism, in the strongest possible terms, urge the Department of Energy to provide for a detailed and specific survey of public attitudes and expectations concerning the impact of a nuclear waste storage repository on Nevada's tourism industry; and

FURTHER, that said study be conducted as promptly as possible and include studies of both the current visitor base and the potential visitor base; and

FURTHER, that the study be conducted independently by a qualified research firm in order to secure the most objective possible conclusions and determinations."

Commissioner Santini indicated that he felt that the Tourism Commission had a particular obligation to look out for the interests of the tourism and travel industry in the state. There is an enormous potential for negative marketing on the part of Nevada's competition, particularly by the private sector, for the domestic and international tourism dollars and a great deal of thought should go into analyzing the negative impact on Nevada's major industry in comparison to the impact the site would have on the major industries of other states.

The motion carried, with Chairman Cashell voting "no," reiterating his position that it was inappropriate for the Commission, at this time, to take any formal stand on the issue before more facts and information are made available.

City of Las Vegas

AGENDA DOCUMENTATION

Date: December 27, 198

): The City Council

FROM: ASHLEY HALL
CITY MANAGER

JBJECT: RESOLUTION RECONFIRMING OPPOSITION TO LOCATION OF A NUCLEAR WASTE DEPOSIT FACILITY IN SOUTHERN NEVADA

JRPOSE/BACKGROUND

On April 20, 1983 the Las Vegas City Council unanimously adopted a resolution opposing the construction of a high-level radioactive waste deposit facility in Southern Nevada.

Recently the Federal Department of Energy tentatively identified Yucca Mountain, located in Southern Nevada, as one of three possible sites for the establishment of a National Nuclear Waste Deposit Facility.

The resolution before you today reaffirms the City Council's decision to oppose this site as a national high-level radioactive waste dump and also to oppose the transportation of such waste along streets and highways within the City of Las Vegas and Clark County.

Not only could a radioactive waste accident have severe financial repercussions on our tourist based economy but Nevadans have already contributed to the nation's nuclear program by providing the only site in the nation for nuclear weapons testing.

ISCAL IMPACT

None

ECOMMENDATIONS

It is the City Manager's recommendation that the resolution be adopted.

RESOLUTION RECONFIRMING OPPOSITION TO LOCATION OF A NUCLEAR WASTE DEPOSIT FACILITY IN SOUTHERN NEVADA

WHEREAS, the United States Department of Energy has tentatively identified Yucca Mountain, located in Southern Nevada, as one of three possible sites for the establishment of a National Nuclear Waste Deposit Facility; and

WHEREAS, on April 20, 1983 the Las Vegas City Council unanimously adopted a resolution opposing the construction of a high-level radioactive waste storage in Southern Nevada and the transportation of high-level radioactive waste anywhere in Southern Nevada; and

WHEREAS, the development of Yucca Mountain as a radioactive waste dump would require the transportation of such waste through Las Vegas and Clark County; and

WHEREAS, a tourist-recreation based economy could be seriously harmed by an accident involving high-level radioactive material and the resulting media coverage; and

WHEREAS, Nevada is not a generator of nuclear waste products and has contributed substantially to the United States nuclear program by providing the nation's site for nuclear weapons testing.

NOW, THEREFORE, BE IT RESOLVED by the Las Vegas City Council that we reaffirm our opposition to the location of a high-level nuclear waste deposit facility in Southern Nevada.

BE IT FURTHER RESOLVED that we remain opposed to the transportation of high-level radioactive waste anywhere in Clark County.

PASSED, ADOPTED AND APPROVED THIS ___ day of ________________ 1984.

____
WILLIAM H. BRIARE, MAYOR

ATTEST:

____
Carol Ann Hawley, City Clerk

RECEIVED
FEB [illegible]
NUCLEAR WASTE PROJECT OFFICE

RESOLUTION RECONFIRMING OPPOSITION TO LOCATION OF A NUCLEAR WASTE DEPOSIT FACILITY IN SOUTHERN NEVADA

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NOW, THEREFORE, BE IT RESOLVED by the Las Vegas City Council that we reaffirm our opposition to the location of a high-level nuclear waste deposit facility in Southern Nevada.

BE IT FURTHER RESOLVED that we remain opposed to the transportation of high-level radioactive waste anywhere in Clark County.

PASSED, ADOPTED AND APPROVED THIS ___ day of ________________ 1984.

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WILLIAM H. BRIARE, MAYOR

ATTEST:

____
Carol Ann Hawley, City Clerk

City of Las Vegas

AGENDA DOCUMENTATION

Date: December 27, 198

). The City Council	FROM ASHLEY HALL CITY MANAGER

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Recently the Federal Department of Energy tentatively identified Yucca Mountain, located in Southern Nevada, as one of three possible sites for the establishment of a National Nuclear Waste Deposit Facility.

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Not only could a radioactive waste accident have severe financial repercussions on our tourist based economy but Nevadans have already contributed to the nation's nuclear program by providing the only site in the nation for nuclear weapons testing.

ISCAL IMPACT

None

ECOMMENDATIONS

It is the City Manager's recommendation that the resolution be adopted.

RESOLUTION

WHEREAS, THE City Council of the City of Lovelock is at times concerned with national issues which affect the citizens of the State of Nevada, and

WHEREAS, the federal government has expressed an intention to locate a high-level nuclear waste disposal facility within the State of Nevada, and

WHEREAS, the Honorable Richard Bryan has expressed opposition to such a nuclear waste disposal facility being located within the State of Nevada, since Nevada has more than contributed its share in the nuclear arena for the entire country, namely hosting the Nevada nuclear test site near Las Vegas since the early 1950's and has hosted a low-level nuclear waste dump near the City of Beatty for twenty-five years, which, incidentally, is only one of three such sites within the country and since the State of Nevada does not generate any of these nuclear wastes, and

WHEREAS, it is the intention of the City Council of the City of Lovelock to express its support for Governor Bryan's stand on the placing of a nuclear waste dump within the State of Nevada,

NOW, THEREFORE, BE IT AND IT IS HEREBY RESOLVED that the governing body of the City of Lovelock, Nevada does hereby support the position of the Honorable Governor Richard Bryan in opposing the location of a nuclear waste dump within our fair state.

The adoption of the foregoing Resolution was moved by Councilman Nelsen, seconded by Councilman [illegible], and adopted on this 15th day of January, A. D. 1985 by the following vote of the City Council.

AYES: Councilman Moezzi, [illegible]

NAYS: none

ABSENT: none

K. Hugh Montrose
K. HUGH MONTROSE, Mayor

COUNCILMAN MASSOUD MOEZZI

COUNCILMAN JACK RIEHM

COUNCILMAN MAURICE NELSEN

ATTEST:

Virginia Kroe
City Clerk

The CHAIRMAN. Thank you very much, Governor.

Before we go to questions, we want to hear from the other witnesses. Next will be Mr. Terry Husseman, Director of Nuclear Waste, the Office of the Governor of the State of Washington.

STATEMENT OF TERRY HUSSEMAN, DIRECTOR, NUCLEAR WASTE, OFFICE OF THE GOVERNOR, STATE OF WASHINGTON

Mr. HUSSEMAN. Thank you, Mr. Chairman, members of the committee.

First, Governor Gardner asks that I express his sincere regrets that he could not be here to personally present this testimony, as the legislature was called into special session as of two days ago. They are in serious budget negotiations, and the Governor did not feel it was a good time to leave.

The Chairman. Tell him we are trying to help him on that budget. [Laughter.]

Mr. HUSSEMAN. OK, I will pass that on. Thank you.

I would like to begin with some comments on Senate Bill 839, Mr. Chairman. Economic incentives may be an appropriate and useful element if used at the end of a site selection process designed and implemented to search for the best sites on the basis of scientific evidence. Unfortunately, science has played a secondary role in the implementation of the current site selection process and as a result DOE's site selection decisions are not credible.

Selection of the best site for a repository must be based on credible geological and hydrological considerations. The State of Washington is not interested in negotiating with DOE on a price at which characterization of the Hanford site would be acceptable.

In declining to negotiate a price at which characterization of the Hanford site would be acceptable, we are doing a favor for the Nation's ratepayers. Hanford should not even be on the list of sites for characterization. According to DOE's own experts it is the least safe and by far the most expensive of all the sites which were under consideration. In previous testimony to this committee we have shown that in selecting Hanford DOE ignored the evidence of its own experts and the results of its own ranking methodology.

In response to written questions from the committee, we have described several of our major and serious technical concerns regarding the Hanford site. Our concerns cannot be brushed aside by simply attributing them to the NIMBY syndrome. There are so many serious technical concerns and potential fatal flaws related to the Hanford site that DOE decisionmakers may have done better if they had closed their eyes and randomly stuck a pin in a map of the United States.

Let me now turn to a discussion of the repository site selection program. Over the past several months the status of the program has been described in various descriptive phrases by Members of Congress and by participants in the process. Some of these descriptions of which I am aware are, for example, the program is in shambles, the program is on the brink of a collapse, the program is in disarray. It is about to go over the cliff. The program is in gridlock.

Last week Secretary Herrington told the Senate Subcommittee on Nuclear Regulation that the program is staggering. We would like to commend the Secretary for acknowledging the current status of the program. We hope that the final version of the amended mission plan will reflect this assessment.

Further evidence of the depth of the repository program's shortcomings are the many and varied proposals for change which have surfaced in recent months. Some of the proposals which have been suggested are: Retract the May 28 decision. Restructure and expand the site selection process, and restart at the point of writing the existing guidelines.

By the way, that is where the State of Washington is—that is the State of Washington's position at this point. Develop regional monitored retrievable storage facilities. Remove the Department of Energy from the process and replace it with a new entity. Reprocess high level nuclear waste, extract the usable radionuclides, and dispose of the remaining waste in the ocean bottom. Halt site characterization in Washington and Texas and characterize the site in Nevada. Provide sufficient financial incentives to encourage a State or an Indian tribe to volunteer a suitable site for characterization. Continue on the current path.

All of these suggested approaches as well as others which have been put forward, have been offered with the sincere belief that they encompass the best solution to the Nation's nuclear waste disposal problem.

Unfortunately, none of these proposals has gathered a broad enough constituency to begin approaching a consensus. Our view of the situation in which we find ourselves can be summed up as follows.

There is unanimous agreement that we must solve the Nation's high level nuclear waste problem. There is widespread agreement that to continue down the current path is an approach which is likely to fail. Although the need for a midcourse correction is recognized by many, there is no agreement on the best answer to the question, where do we go from here?

Until the various interested and involved parties can reach a consensus on the best answer to that question, the program will, in Secretary Herrington's terms, continue to stagger and will eventually fall.

With these points in mind, in December of last year Governor Gardner recommended to the Department of Energy that it take the lead in establishing a forum and a process which could be utilized to develop a consensus answer to the question, where do we go from here?

The Governor's opinion was that if DOE were willing to acknowledge the need to consider changes to the site selection process, and were willing to support and participate enthusiastically in consensus building, its own credibility would be enhanced and there would be a good possibility that positive results could be achieved. USDOE has now turned down the Governor's recommended course of action.

In doing so, DOE stated that Congress is the appropriate national forum to resolve the controversial issues surrounding the repository site selection process. On this point we are now in total agreement. If DOE is unwilling or unable to take the lead in attempting to develop an acceptable solution to the serious problems with which we are confronted, then of course the responsibility must shift back to Congress.

When Congress passed the Nuclear Waste Policy Act, it was generally agreed that it established an effective and workable means to solve the Nation's high level nuclear waste disposal problem. In our opinion the Act did contain all the necessary elements to solve the problem, if properly implemented. However, the seriously flawed implement of the Act by DOE has resulted in an untenable situation which requires that Congress consider a midcourse correction.

In order to assess effectively the existing situation and to make an informed decision on the best course of action, Governor Gardner urges this committee and the Congress as a whole to consider the following approach:

Establish a forum and a deliberative process designed to bring together the representatives of all the interests with the common goal of developing a consensus recommendation to Congress to answer the question, where do we go from here. While this process is going on, all site-specific activities should be halted until Congress has an opportunity to act on the recommendations.

We must take the time to reach an agreed, well thought-out solution to this complex situation in which we find ourselves. Before we can go forward in the site selection process with confidence that we will be successful, we must reach agreement on answers to several major questions which we thought were answered 4 years ago.

We must take advantage of the knowledge and experience gained by the participants in the 4 years since the act was passed. The following major issues must be resolved before we go forward:

One, what is the most effective solution to the utility's short-term spent fuel storage problem.

Second, is there a need for two repositories, and if so, what is the appropriate timing for the second repository?

Third, what are the necessary elements of a repository site selection process that will provide confidence that the search will be for the best site and that selection decisions will be based on credible scientific evidence.

All of these issues are interrelated. Resolution of one is affected by resolution of the others. For example, before utilities could be expected to agree to onsite dry cask storage or a State could be expected to agree to host an MRS facility as the preferred solution to the short-term spent fuel storage problem, the utility or the State must have confidence that the long-term problem will be solved.

As another example, if it is decided that there is a need for only one repository or a substantial delay in the timing of the search for a second repository, then the appropriate geographical scope of the site selection process would be impacted. All of these major issues must be resolved together as part of a package in order to develop a credible overall solution to the Nation's high level nuclear waste disposal problem. There are no quick fixes which can restore credibility to the current site selection process.

We look forward to working together with this Committee in developing and implementing a consensus-building process to decide where do we go from here.

Thank you for this opportunity to provide our comments and recommendations on the repository program.

[The prepared statement of Governor Gardner follows:]

TESTIMONY OF GOVERNOR BOOTH GARDNER

STATE OF WASHINGTON

to the

SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES

APRIL 29, 1987

Thank you Chairman Johnston and members of the Committee. I appreciate the opportunity to present this testimony on behalf of the citizens of state of Washington.

Let me begin with some comments on Senate Bill 839.

Economic incentives may be an appropriate and useful element used at the end of a site selection process designed and implemented to search for the best sites on the basis of scientific evidence. Unfortunately, science has played a secondary role in the implementation of the current site selection process and as a result USDOE's site selection decisions are not credible. Selection of the best site for a repository must be based on credible geological and hydrological considerations.

The state of Washington is not interested in negotiating with USDOE on a price at which characterization of the Hanford site would be acceptable.

In declining to negotiate a price at which characterization of the Hanford site would be acceptable, we are doing a favor for the nations's ratepayers. Hanford should not even be on the list of sites for characterization. According to USDOE's own experts it is the least safe and by far the most expensive of all the sites which were under consideration. In previous testimony to this Committee we have shown that in selecting Hanford, USDOE ignored the advice of its own experts and the results of its own ranking methodology. In response to written questions from the Committee, we have described several of our serious technical concerns regarding the Hanford site. Our concerns cannot be brushed aside by simply attributing them to the NIMBY syndrome. There are so many serious technical concerns and potential fatal flaws related to the Hanford site that USDOE decision-makers may have done better if they had closed their eyes and randomly stuck a pin in a map of the United States.

Let me now turn to a general discussion of the repository site selection program.

Over the past several months, the status of the program has been described in various descriptive phrases. Some of those of which I am aware are:

- the program is a total shambles;
- the program is on the brink of collapse;
- the program is in total disarray;
- the program is about to go over the cliff;
- the program is like a derailed train;
- the program is on the verge of disintegration;
- the program is now in gridlock.

Last week Secretary Herrington told the Senate Subcommittee on Nuclear Regulation that *"the program is staggering"*. I would like to commend the Secretary for acknowledging the current status of the program. We hope that the final version of the amended Mission Plan will reflect this assessment.

Further evidence of the depth of the repository program shortcomings are the many, varied proposals for change which have surfaced in recent months. Some of the proposals which have been suggested are:

- Retract the May 28th decisions, restructure and expand the site selection process, and restart at the point of writing siting guidelines
- Develop regional monitored retrievable storage facilities
- Remove USDOE from the process and replace it with a new entity
- Reprocess high-level nuclear waste, extract the usable radionuclides and dispose of the remaining waste in the ocean bottom
- Halt site characterization in Washington and Texas and characterize the site in Nevada
- Provide sufficient financial incentives to encourage a state or Indian Tribe to volunteer a suitable site for characterization
- Continue on the current path

All of these suggested approaches, as well as others which have been put forward, have been offered with the sincere belief that they encompass the best solution to the nation's nuclear waste disposal problem. Unfortunately, none of these proposals has gathered a broad enough constituency to begin approaching a consensus. My view of the situation in which we find ourselves can be summed up as follows:

1. There is unanimous agreement that we must solve the nation's high-level nuclear waste problem
2. There is wide-spread agreement that to continue down the current path is an approach which is likely to fail
3. Although the need for a mid-course correction is recognized by many, there is not agreement on the best answer to the question "*where do we go from here?*"
4. Until the various interested and involved parties can reach a consensus on the best answer to that question, the program will, in Secretary Herrington's terms, continue to stagger and will eventually fall

With these points in mind, in December I recommended to USDOE that it take the lead in establishing a forum and a process which could be utilized to develop a consensus answer to the question "*where do we go from here?*". It was my opinion that if USDOE were willing to acknowledge the need to consider changes to the site selection process, and were willing to support and participate enthusiastically in consensus-building, its own credibility would be enhanced and there would be a good possibility that positive results could be achieved. USDOE has turned down my recommended course of action. In doing so, USDOE stated that Congress is the appropriate national forum to resolve the controversial issues surrounding the repository site selection process. On this point I am now in agreement with USDOE's position. If USDOE is unwilling or unable to take the lead in attempting to develop an acceptable solution to the serious problems with which we are confronted, then the responsibility must shift back to Congress.

When Congress passed the Nuclear Waste Policy Act, it was generally agreed that it established an effective and workable means to solve the nation's high-level nuclear waste disposal problem. In my opinion, the Act did contain all of the necessary elements to solve the problem if properly implemented. However, the seriously flawed implementation of the Act by USDOE has resulted in an untenable situation which requires that Congress consider a mid-course correction.

In order to assess effectively the existing situation and to make an informed decision on the best course of action, I urge this Committee and the Congress as a whole to consider the following approach:

1. Establish a forum and a deliberative process designed to bring together representatives of all the interests with the common goal of developing a consensus recommendation to Congress in answer to the question *"where do we go from here?"*

2. Halt all site specific activities until Congress has the opportunity to act on the recommendations

We must take the time to reach an agreed, well thought out solution to the complex situation in which we now find ourselves. Before we can go forward in the site selection process with confidence that we will be successful, we must reach agreement on ~~the~~ answers to several major questions which we thought were answered four years ago. We must take advantage of the knowledge and experience gained by the participants in the four years since the Act was passed. The following major issues must be resolved before we proceed:

1. What is the most effective solution to the utilities' short-term spent fuel storage problem?

2. Is there a need for two repositories, and if so, what is the appropriate timing as ~~to the~~ second repository?

3. What are the necessary elements of a repository site selection process that will provide confidence that the search will be for the best site and that selection decisions will be based on credible scientific evidence?

All of these issues are interrelated. Resolution of one is affected by resolution of the others. For example, before utilities could be expected to agree to on site dry-cask storage or a state could be expected to agree to host an MRS facility as the preferred solution to the short-term spent fuel storage problem, it must have confidence that the long-term problem will be solved. As another example, if it is decided that there is a need for only one repository or a substantial delay in the timing of the search for a second repository, then the appropriate geographical scope of the site selection process would be impacted.

All of these major issues must be resolved together as part of a package in order to develop a credible overall solution to the nation's high-level nuclear waste disposal problem. There are no *"quick fixes"* which can restore credibility to the current site selection process. ¶ I look forward to working together with this Committee in developing and implementing a consensus-building process to decide *"where do we go from here?"*.

Thank you for this opportunity to provide our comments and recommendations on the repository program.

The **Chairman**. Thank you very much, Mr. Husseman.

Let me just say I hate to say this at this point, but we have had two witnesses and gone for an hour and 20 minutes. The written statements will be in the record, and so I am not going to tell you not to read your statement, Mr. Frishman, but it would be much better and more effective with the committee if you could summarize it, but I will allow you to proceed as you will. I just want to allow time for questioning so we can have some interchange and not just hear read statements. Please proceed.

STATEMENT OF STEVEN FRISHMAN, OFFICE OF THE GOVERNOR, STATE OF TEXAS

Mr. **Frishman**. Thank you, Mr. Chairman. I hear you.

Governor Clements has asked that I convey his regrets that he cannot be here. As you know, we have some rather pressing budget problems, and we are well aware of your kind offer also.

Today I will be presenting testimony on behalf of the State, and I do have some written testimony that you have before you. I think I can probably summarize most of the points, but I would like to——

The **Chairman**. It is an excellent statement, by the way. I have read it.

Mr. **Frishman**. I would like to at least read the portion having to do with your bill S. 839, and then I will summarize the remainder of the points if that is all right with you.

I appreciate the opportunity to present the committee with our views on Senate bill 839, a bill which would provide scheduled financial incentives to a State and local government for entering into an agreement with the Secretary of Energy concerning the storage and disposal of high level nuclear waste, and also to discuss some other topics related to the nuclear waste program.

We have reviewed Senate bill 839 and find that we cannot support or recommend its adoption. This conclusion has been reached for a number of reasons which I will present in this statement. The Nuclear Waste Policy Act of 1982 was founded on two major principles that would essentially be overridden by the adoption of Senate bill 839.

First, the Nuclear Waste Policy Act of 1982 recognizes that a very high priority must be placed on the achieving of technical excellence in the nuclear waste disposal programs in order to ensure the protection of public health and safety and the environment for a period of thousands of years.

The second is that the State and local participation in the planning and development of repositories is essential to promote public confidence in the safety of the waste disposal. The only portion of the bill that speaks to technical excellence in site selection is the provision that the agreement described in the bill will be terminated if the Secretary of Energy finds that the site does not meet the DOE site recommendation guidelines, guidelines which the State of Texas and many other interested and affected parties have alleged in litigation are inadequate to screen for excellent candidate repository sites.

If the Secretary does not disqualify a site, it must still be found acceptable for a repository licensed by the NRC through its independent review. A State, having signed an agreement according to this bill, must waive not only its current right to disapprove a site but also its right to intervene in the NRC licensing process even if the State determined that its intervention was necessary to assure the technical merit of the NRC's decision basis. The State would, in effect, become a co-applicant with the Department for a repository license.

Furthermore, the bill provides no incentive to seek technical excellence in a site since according to this Bill any state may seek to enter an agreement, and once such an agreement is in place only one site will be characterized. This creates a situation in which there will be no evaluation and comparison among alternative sites as is required by the National Environmental Policy Act and the Nuclear Waste Policy Act of 1982. In fact, the bill provides that NEPA does not apply to its implementation.

This would leave the NRC without the practical ability to meet its own separate NEPA responsibilities that must accompany the licensing decision. It seems quite clear that the prevailing assumption of bill is that any site in which the DOE invests sufficient dollars and time is certain to be suitable for a repository license, yet the NRC has its own established regulatory duty to determine whether the site is suitable. This is a requirement which apparently the bill overlooks in its silence on the subject.

With an MRS and repository agreement in place—and by the way, we are convinced that some form of interim storage is going to be necessary—with an MRS and repository agreement in place, the siting of a second repository would be waived until a first repository was in or near operation.

Then between the years 2001 and 2004 the Congress would determine the need for a second repository. This breaks the delicate political balance as you have heard about today and many times before that was achieved in passage of the Act in 1982.

In addition, it appears to represent an assumption that the current first repository candidate sites would result in sufficient capacity to dispose of all of the waste contemplated for two or even more repository systems, a geologic condition that has not been sufficiently analyzed to support such an assumption.

Upon signing of an incentive agreement, the state essentially waives all its right to judicial review of any aspect of the DOE program, which leaves the State in a position of being subject to termination of the agreement by the Secretary without benefit of review if the Secretary finds what he alone considers to be a bad-faith or default situation. Termination under such circumstances would require return without contest of all the incentive funds received by the State and local governments.

The inability to seek judicial review of essentially any of the DOE's actions would be an unacceptable situation for the State of Texas.

Now, Mr. Chairman, I would like to just summarize a few other points that appear in this testimony. One is a new discussion and a re-discussion of a point that was raised in Governor Clements' testimony during your hearing on February 4 of this year.

That has to do with the fact that we are still convinced that there are some significant technical issues surrounding the Deaf

Smith County site and the other sites that deserve a great deal of attention in terms of trying to determine whether it is worth spending this much talked-about $1 billion per site to go through site characterization.

We think that there are issues surrounding these sites, and for our purposes especially the Deaf Smith County site, that put the licenseability of the site into very severe question.

The Nuclear Regulatory Commission has also recognized these same issues, primarily an issue of retrievability. They have recognized it as one which is a serious issue. Their review of the Department of Energy's environmental assessment indicated that the issue was essentially resolved for purposes of the review, and that is that the NRC was satisfied that the Department of Energy recognized the seriousness of the issue in the redrafting of the environmental assessment from the earlier draft to the final.

Also, the Nuclear Regulatory Commission in its review, and it was very clearly stated to you yesterday, reviewed not the suitability of the sites, reviewed the environmental assessments and the extent to which they recognized the potential licensing issues and the technical concerns regarding the sites. For the NRC to comment otherwise at this time would in our view be a compromise of its regulatory responsibilities.

We have another matter of particular concern that you will hear from the representative of the Deaf Smith County government group today. That has to do with the fact that the Department of Energy is at this point preparing to move a large number of workers into the Texas Panhandle, a much larger number, in fact by about a factor of three, than the number of workers anticipated and analyzed in the environmental assessment. This has caused a great deal of concern in terms of the types of socioeconomic impacts that will be created and the effects on local government services and budgets.

The Department of Energy did not reanalyze impacts of this type of or of this size of an in-migration. We are in the situation now where we are very quickly trying to analyze those impacts. The major point of concern is, the Department recently announced to the board of directors of the Vega Independent School District that it is not able to provide funds under the Nuclear Waste Policy Act to mitigate impacts of site characterization.

Now, this is a very difficult situation considering the fact that the Department was given earlier assurances that problems would be reviewed, avoided, and where there were problems they would be taken care of.

At this point we have written to Mr. Ben Rusche requesting that he postpone the movement of a large work force into the Panhandle area until this matter of the funding of mitigation of site characterization impacts is resolved. At this point our view and that of the Department of Energy is that it may be that we will have to review the whole matter in terms of a possible line item in an appropriations bill.

As a final point I would like to indicate, as Governor Clement's statement did on February 4, that we are in support of the moratorium on site characterization. We think that it is very important that the Congress take this opportunity to review the implementation of the act and the act itself, seek the assistance of an appointed commission and to review what it may take to get the repository program on track. We are, as all others, convinced that we must solve this problem.

I am as adamant as Mr. Rusche was yesterday in his position that we have an obligation to attempt to solve this within our generation, and we have informed, and Governor Clements has informed the Texas delegation of his position regarding a moratorium for about 2 years at this time, a Congressionally directed study through some commission, and then efforts by the Congress to determine what is the best method to put the program back on track.

With an effective moratorium and a mandated program review, Governor Clements has pledged to the Texas delegation and we pledge here that our office will provide full cooperation in this review and the work of the commission and will support this necessary effort to seek some sound plan of action for resolution of this very critical national problem.

I appreciate being able to appear before you today, and I am available to respond to any of your questions. Thank you.

[The prepared statement of Governor Clements follows:]

Statement of
William P. Clements, Jr.
Governor of Texas

Before the
United States Senate
Committee on Energy and Natural Resources

April 29, 1987
Washington, D. C.

Regarding Storage and Disposal of
High-Level Nuclear Waste

I appreciate the opportunity to present the Committee with our views on Senate Bill 839, a bill which would provide scheduled financial incentives to a state and local governments for entering into an agreement with the Secretary of Energy concerning the storage and disposal of high-level nuclear waste; and to discuss other topics related to the nuclear waste program.

We have reviewed Senate Bill 839 and find that we cannot support or recommend its adoption. This conclusion has been reached for a number of reasons which I will present to you in this statement.

The Nuclear Waste Policy Act of 1982 is founded on two major principles that would essentially be overridden by the adoption of Senate Bill 839. First, the Nuclear Waste Policy Act of 1982 recognizes that a very high priority must be placed on the achieving of technical excellence in the nuclear waste disposal programs in order to ensure the protection of public health and safety and the environment for a period of thousands of years. The second is that state and local participation in the planning and development of repositories is essential to promote public confidence in the safety of the waste disposal. The only portion of the bill that speaks to technical excellence in site selection is the provision that the agreement described in the bill will be terminated if the Secretary of Energy finds that the site does not meet the DOE's site recommendation guidelines -- guidelines which the State of Texas, and many other interested and affected parties have alleged in litigation are inadequate to screen for excellent candidate repository sites. If the Secretary does not disqualify a site, it must still be found acceptable, through independent review, for a repository license by the Nuclear Regulatory Commission. A state, having signed an agreement according to this bill, must waive not only its current right to disapprove a site, but also its right to intervene in the NRC licensing process, even if the state determined its intervention was necessary to assure the technical merit of the NRC's decision basis. The state would, in effect, become a co-applicant with the DOE for a repository license. Furthermore, the bill provides no incentive to seek technical excellence in a site, since, according to the bill, any state may seek to enter an agreement, and once such an agreement is in place, only one site will be characterized. This creates a situation in which there will be no evaluation and comparison among alternative sites, as is required by the National Environmental Policy Act and the NWPA of 1982. In fact, the bill provides the NEPA does not apply to its implementation. This would leave the NRC without the practical ability to meet its own NEPA responsibilities that accompany the licensing decision. It seems quite clear that the prevailing assumption of the bill is that any site in which the DOE invests sufficient dollars and time is certain to be suitable for receipt of a repository license from the NRC, yet the NRC has its own established regulatory duty to determine whether the site is suitable for license -- a requirement which is apparently overlooked in the bill.

With an MRS and repository agreement in place, the siting of a second repository would be waived until a first repository was in or near operation, and then, between 2001 and 2004, the congress would determine the need for a second repository. This breaks the delicate political balance that was achieved in passage of the Act in 1982. In addition, it appears to represent an assumption that the current first repository candidate sites would result in sufficient capacity to dispose of all the waste contemplated for a two, or more, repository system -- a geotechnical condition that has not been sufficiently analysed to support such an assumption.

Upon signing of an incentive agreement, the state essentially waives all its rights to judicial review of any aspect of the DOE program, which leaves the state in a position of being subject to termination of the agreement by the Secretary, without benefit of review, if the Secretary finds what he, alone, considers to be a bad faith, or default situation. Termination under such circumstances would require return, without contest, of all the incentive funds received by the state and local governments. The inability to seek judicial review of essentially any of the DOE's actions would be an unacceptable situation for the State of Texas.

There are three other topics that I would like to cover briefly in the remainder of this statement. First, our reviews and analyses continue to indicate that significant technical questions exist, and will continue to emerge regarding the technical suitability of the Deaf Smith County candidate repository site, as well as at the Washington and Nevada sites. In my statement before this Committee on February 4, 1987, I outlined two of our major geotechnical concerns regarding the Deaf Smith County site that raise major questions regarding whether the site could ever be found acceptable for a repository license from the Nuclear Regulatory Commission. Even with the limited amounts of data available, it appears that the ability to meet the statutory and regulatory requirement of waste retrievability from the repository is unlikely to be met without a regulatory waiver or amendment. Also, the ability to safety construct and seal repository shafts, and for that matter, exploratory shafts through the existing geology, is highly uncertain. Furthermore, we know of no certain way to monitor the effectiveness and performance of shaft seals either during operation or after closure of a shaft under the existing geologic conditions. The NRC has expressed concerns regarding these and other geotechnical issues in its review of the DOE's Final Environmental Assessment, while clearly acknowledging that its review is intended to speak only to technical issues and concerns regarding the site, and not the site's suitability under licensing regulations. For the NRC to comment otherwise at this time would compromise its regulatory responsibilities.

Another matter related to DOE's activities that is of considerable concern to both the State of Texas and affected local governments in the area of the Deaf Smith County site is the recently announced plans to relocate, in the very near future, its Salt Repository Project Office and accompanying contractor offices to the site vicinity. A DOE and contractor office of nearly 400 workers is planned to be established in Hereford, Texas by the end of this fiscal year, with a field service contractor office expected to employ about 800 field and office workers to be established in Amarillo, about 40 miles from the site, shortly thereafter. The employee influx, over a short period of time will exceed the number of employees described in the Final Environmental Assessment by a factor of about three. The potential socioeconomic impacts, including impacts on local governmental services, of such a large number of workers, plus their accompanying families, on the rural communities in the site vicinity has not been analysed by the DOE. We, in cooperation with local governments, are now initiating a rapid analysis of potential impacts, which surely will take place given the small and currently stable population of some of the affected communities. The DOE, following our lead, has also indicated that it will repeat some of its earlier projections of worker population distribution based upon these vastly larger numbers now planned, but it still plans to carry out its relocation at the same rapid pace. The matter of primary concern is that, in the face of certain impacts, and despite the assurrances from DOE to local officials and citizens that impacts would be avoided, or "taken care of", the DOE announced this month to the Board of Directors of the Vega Independent School District, in which the site is located, and which serves the 900 person City of Vega, the nearest community to the site, that the NWPA does not permit its providing funds for mitigation of site characterization impacts, nor can other cities, schools, hospital district be so assisted. In addition, none of these jurisdictions will be eligible for payment-equivalent-to-taxes (PETT) under the Act. The further suggestion from DOE was that a line item appropriation from the Congress may be the only means by which communities could fund preparation for the anticipated impacts on public services, such as schools, water supply, sewage treatment, etc., or mitigate impacts that occur during DOE's activities at the site. We have written to Ben Rusche, Director of the Office of Civilian Radioactive Waste Management, requesting that the DOE postpone its early plans for relocation of the Salt Repository Project Office until this matter of funding for impact mitigation is resolved. It is my belief that the Congress did not intend, in passage of the Act of 1982, that the taxpayers in affected local communities bear the burden of the site characterization program. It is my hope that the Congress will give this matter serious consideration, and join me in making our concerns known to DOE as well as assist in my request that DOE avoid, as the Act instructs, adverse impacts of site characterization activities.

My final point is one which was presented in my February 4, 1987, statement to the Committee. I recommended then, and have since informed the Texas Congressional delegation, that I believe there is merit and efficiency in the Congress, this year, halting all site-specific activities related to site characterization, its planning, and land acquisition, for a two year period while a Congressionally appointed commission reviews the NWPA program and prepares recommendations on how to sufficiently restore program and technical credibility in order that the nation may then proceed to meet its responsibilities in the safe and acceptable management and disposal of high-level nuclear wastes. With such an effective moratorium and mandated program review, I pledge to you, as I have to members of Congress from Texas, that we will provide full cooperation in the review and other work of the commission in this necessary effort to seek a sound plan of action for resolution of this critical national problem.

The Chairman. Thank you, Mr. Frishman. We are glad to have you again here.

As I was listening to the testimony this morning, I thought to myself now what would I do if I were from a State where they were thinking about locating a nuclear waste facility and my people did not want it, and it occurred to me that if I measured up to the standard of testimony that you gentlemen have I would have been doing very well indeed for my State.

Now we have a little different duty up here, unfortunately, rather than just representing our State. As I listened to the testimony, I hear not now, later; not here, there; not a repository, an MRS; and this afternoon when we hear the MRS people we will hear not an MRS but a repository; not in the West but in the East; and if we have the East people it will be not in the East but in the West. That does not mean to say that these are not very heartfelt and very persuasive arguments, but it is to say that we have a responsibility to see that that repository is located somewhere.

Now I would also point out that when we talk about bias in the process that has gotten us down to three, there must necessarily be some subjective standards. It is not capable, it is not possible to have a repository selection process reduced to digits where you can add them all up and say, well, this one has a higher number of digits than that.

The reason for that is there simply are variable factors. The geologic media is one factor. Tectonics, population access, transportation, and a host of other factors are all playing in with the simultaneous equation that simply must have some kind of subjective determination.

Now, Governor Bryan, you asked that we stop the process and that we have a study. Now, who would you recommend to conduct that study?

Governor Bryan. Mr. Chairman, what I have suggested is that a moratorium be established; that an independent commission of the national stature of a Rogers Commission or a Tower Commission, of which this Congress is well aware, a commission that would not be associated with any agency of the Federal Government so that it would have the objectivity, let them conduct a hearing in terms of what is necessary to get this program back on track.

The Chairman. The Rogers Commission and the Tower Commission were politicians and lawyers. Would you want politicians and lawyers to make these judgments?

Governor Bryan. I would think if they are individuals of unquestioned integrity, as certainly former Secretary Rogers and Senator Tower, these are people that clearly have national stature, I would think that because of the geographical concerns that have been identified by the three States that are presently part of the site selection process that we would be well advised to stay away from those particular States, but I cannot——

The Chairman. Well in your statement, for example, you point out the scientific and technical concerns that there is active fault movement and reactivation of prior faulting by nuclear weapons tests, a high probability of significant tectonic activity, potential volcanic activity, localized zones of saturation that imply absence of free drainage.

Now would you really rather have some lawyers and some politicians making that judgment rather than the National Academy of Sciences and the Nuclear Regulatory Commission, those kind of people? Are you serious in that?

Governor **Bryan**. Well, I believe that those folks would be capable of hearing that kind of testimony. There is every reason to assume that a commission of that stature would invite testimony from those that are scientifically qualified to make certain statements with respect to the technical aspects.

But I think, Mr. Chairman, that perhaps you are missing a point that we think is terribly important and which I think has been perhaps not emphasized enough. That is, not only are there concerns about the scientific suitability of this site, but you who have participated so actively in drafting the 1982 act recognize that there was regional equity, which was a prime consideration, that you and your colleagues were concerned about the basic fairness that any State that ultimately would be chosen would have to be assured that there would be fairness.

Our point this morning is to emphasize that any semblance of fairness has been shattered as a result of the actions taken by the Department of Energy, so that there is no credibility with respect to the decisions that they have made in terms of siting guidelines.

We feel in effect that there has been a nuclear fix, that even before the act that you struggled and we agree in concept and in principle with the act that was adopted in 1982 and shortly after my election in 1983 I indicated that I thought that the act was a responsible approach.

The **Chairman**. Governor Bryan, that sounds kind of like a political conspiracy against Nevada.

I can just see Ronald Reagan up there conspiring against Senator Laxalt. It is hard to sell to us, and all we can do in this committee is try to be fair. So what do we do? We read about tectonics and all of that and we do not know very much if anything about that.

So what do we do? We invited in the National Academy of Sciences yesterday, which has not been studying for just a few weeks for a quick study, but they have been going along step by step bit by bit painfully examining each detail.

As Dr. Parker with the National Academy of Sciences said yesterday, he said, we are trying to determine what happens to every molecule that would be in that nuclear waste facility, try to trace it over a period of hundreds of year and be sure, be positive, so that the public is reassured.

Now is that not really what we should do here, rather than go hire a bunch of lawyers and, do not get me wrong, I am a lawyer. My dad used to say the safety of the Republic lies in a well paid bar. The country is a whole lot safer than Weinberger thinks it is by that standard.

But really, is that not what we ought to do, is get the scientists as best we can in here and talk to them? And I really do not think the National Academy of Sciences is in any conspiracy with the Nuclear Regulatory Commission against your three States. I mean, it happened that they picked you three and yes, they did have some subjective ideas in there. You have got to do that.

But what they told us yesterday, was that there is no reason, while the process may not have been perfect up to this time, and they have some criticisms of it, they say there is no reason not to go ahead. That the real answers to these questions, tectonic activity, water migration rates, all of those things, can be answered only with the characterization of the sites.

That is where these things will either rule in or rule out the States. Should we not do that?

Governor **Bryan**. Mr. Chairman, clearly that is in part the solution. But we think that the concern is not only scientific, something that scientific people obviously have the discipline and the expertise to share with the commission. But we are talking about procedural fairness.

When I used the term nuclear fix, I did not use it ill-advisedly. A recent opinion sampling of our own State would indicate that 66 percent of the people of Nevada share that view, and you know as a lawyer based upon your experience that conclusions are formed by and large by actions.

And the course of actions taken by this agency, the Department of Energy, has given Nevada every reason to conclude that the process itself, that the process was unfair. The philosophical predicate of that Act in 1982 indicated that there would be a fair screening process, that in effect the entire nation would be examined from that, yes, there would be a scoping process by which ultimately sites would be narrowed and a single one would be chosen.

But we believe that a fatal flaw in the screening process occurred so that in effect an unfair judgment was reached in terms of choosing Nevada, and that there are other sites that could fairly easily have been chosen as well, and were not because of the built-in biases, and that the commission itself could make this kind of determination.

The **Chairman**. I understand that, and we want to treat your concerns very seriously. But our way of dealing with that is to bring in the experts, people whom we trust like the National Academy of Sciences and the Nuclear Regulatory Commission and say, look, we do not understand all of this scientific charges. Give us your best judgment. And they did.

Governor **Bryan**. Sure. But that, Mr. Chairman, in all due respect, addressed the scientific concern. What I am——

The **Chairman**. No, it addressed the process as well. As a matter of fact there was quite a discussion yesterday between Senator McClure and the Nuclear Regulatory Commission, who spoke of the need for community involvement and all that.

And I think they can do a better job. I do not know whether they can ever do an adequate job, because people who do not want something cannot be convinced against their will sometimes.

Governor **Bryan**. I think that you would have to agree, Mr. Chairman, that certainly the actions of the Department of Energy with respect to the involvement of the States in assisting and formulating the guidelines, and evaluating the environmental assessments, the course of action from its inception has put the State in a position where we have had to file suit, as you know, joined by the States.

Ultimately the Ninth Circuit Court of Appeals ruled in our favor and said, look, in effect the Department of Energy is not cooperating. They withheld funds from us, time and time again. Even after the ninth circuit decision it took a hearing before the Congress to free up some of that money.

That is hardly the sort of stuff that fairness and credibility and trust and confidence are based upon. And the illegal action of the agency, I would hardly think that the National Academy of Sciences could have concluded, and I was not here, I apologize, yesterday to hear the testimony.

But the National Academy of Sciences I would think would be hard pressed to conclude that the agency acted responsibly in unilaterally determining that it was not necessary to go forth, as the act mandates, with the second site.

The CHAIRMAN. Let me ask you this, Governor. We have a tough decision coming up tomorrow in Appropriations Committee. The House bill on the supplemental appropriations bill has a nuclear test moratorium. Do you have any advice on what we ought to do on nuclear testing?

Governor BRYAN. Nevadans have been strongly supportive of the national defense efforts at the test site, and to conduct that testing. I can speak as a former employee, before I went as you did to law school and completed my own professional education. I think that the money ought to be included in that appropriation.

The CHAIRMAN. Well, Dr. Parker testified, with the National Academy of Sciences, yesterday I asked him, was there any danger from having 550 to 600 test holes, where explosions have been made, where the high level radioactive waste from those explosions is in the ground, not contained in any facility, not sealed off in any way.

And he said that he had no reason to expect that it was not completely safe. But that he was positive that it was many times more dangerous than a nuclear waste facility would be. Do you have any reason to doubt what he said?

Governor BRYAN. I do not share his conclusion. As everybody in this room knows, we dropped two atomic bombs on Japan in 1945.

No one has suggested that it take 10,000 years, which is the life cycle of this repository process, before those areas can again be inhabited. Hiroshima and Nagasaki have been occupied for a number of years. So I would certainly say that from my perspective we have much more concern in terms of the long range environmental potential to the siting program.

Moreover, I think, an aspect which the Congress may not have considered, the Nevada testing site has been a site that has been used exclusively since we eliminated the testing in the Pacific at the end of the war. Nevadans have supported that national defense effort.

The CHAIRMAN. Nevadans have, and I think they deserve credit for that, and I do not mean to say that simply because you have a test site with 550 to 600 holes where explosions have been made that therefore we ought to cram the waste facility down your throat. I do not mean that at all. I want to make that very clear.

But it is a scientific fact, at least in the opinion of the National Academy of Sciences. Those 550 to 600 holes constitute much more, many times more of a hazard to Nevada, Nevadans, its water supply and whatever other way that you might have a conceivable objection, than does a nuclear waste facility.

Because in those holes you have various radionuclides, including plutonium and iodine isotopes, which are very long lived, perhaps in not great quantities. But at the same time we do not think that there is any chance of any migration from a nuclear waste facility as well. In fact many times less.

So I think that is something that ought to be taken into consideration. Nevada has done its share. It has also gotten its jobs. Like in Louisiana, we have complained about the fact that we have had a lot of oil drilling and cutting canals in our swamps and all that.

And then you say, do you want to stop it? Oh no, please send the rigs. We want more of it and I would suspect that you would. And I would urge you to consider the job impact here. Over 3,000 direct jobs would be immediately gotten for Nevada, which you do not want if it is a danger.

But I would suggest to you that the evidence is clear that nuclear waste facilities are a political danger, an emotional danger, but not a scientific danger.

Governor BRYAN. Mr. Chairman, I certainly do not want to be contentious with you. We have a difference of opinion on that issue. But let me——

The CHAIRMAN. Where does that difference come from?

Governor BRYAN. Well, the difference comes from at least, you are talking about something that, in the history of civilization, mankind has never built a structure designed to last for 10,000 years. In the history of the world I do not believe there has been any structure that we can identify that survived 10,000 years.

The CHAIRMAN. Well, as a matter of fact in Gabon they had what they called natural reactors, in the sense that they had millions of years ago a natural reaction caused by uranium levels which were much higher than they are today, leaving in effect nuclear waste dumps, if you will, containing the precise nuclear waste left from nuclear fission, because that is what took place, nuclear fission took place.

So they know precisely what happens when you have nuclear waste in the ground. And they found that migration was very slight. Now that was not in a contained facility. That was just in the ground, that was at a time when uranium-235 concentrations were much higher. So we do know something about that.

Governor BRYAN. A point that I think the Committee may want to consider is that as the testing program continues, there is reason to believe that the area of Yucca Mountain may conceivably be needed in the future.

Because as you know a good part of that test site over the years has been used, the program dates back to 1951, and it seems to me that there are some national policy considerations, since we have a test site in place with all the support equipment, staff, and everything, that it may be unwise, from our point of view it is, to in effect preempt a site that may be needed for further weapons testing.

Not only of the nuclear testing program that we have experienced since the underground program was developed after 1963, but in addition, as you now, the Star Wars program and that testing also is continuing. And that area adjacent to the test site, Yucca Mountain area, is a prime area that needs to be considered for that.

So we have some policy conflicts that the country needs to address and it seems to me unwise——

The CHAIRMAN. But would you not agree that scientists ought to make that determination and not some lawyers?

Governor BRYAN. Not necessarily, Mr. Chairman, because in all due respect to the policy judgment of where we ought to conduct those programs and how expensive they may be in terms of relocation, it seems to is a judgment to the Congress.

The CHAIRMAN. What I mean is, a lawyer should not make the judgment whether the testing of the x-ray laser at Yucca Mountain is inconsistent with the storage of nuclear waste. Would you not rather have the National Academy of Scientists and the Nuclear Regulatory Commission?

Governor BRYAN. No. I did not mean to leave the impression that the inconsistency in terms of the testing programs not being compatible with each other is the only concern. What I am saying is that we may need the additional real estate, if you will, to continue with the nuclear testing program and the Strategic Defense Initiative.

Yucca Mountain, adjacent as it is to the Nevada Test Site, is available. You may reach a position, Mr. Chairman, irrespective of what ultimately may be decided with respect to the siting of a repository, that the present test site, the geographical confines, will be insufficient prospectively, to conduct the testing that we are presently doing in the underground testing, and that which is contemplated in the future for SDI, unless you enlarge the test site.

That is, take in more geography, and I am suggesting that the Yucca Mountain, adjacent as it is, is a prime site for that.

The CHAIRMAN. Let me ask all witnesses, I assume you all do not oppose a benefits package for the site that is ultimately picked. You simply want to change the way of picking the site. Am I correct? Everyone agree with that?

Governor BRYAN. That is correct. That is consistent with our testimony.

The CHAIRMAN. Now why is S. 839, which provides a benefits package, and which does not provide any compulsion at all. It simply is a way with your consent to get a benefits package, and I might add a very substantial benefits package. I mean $100 million a year is serious money even to the Federal Government.

Why, given the fact that that is purely consentual, does not otherwise change the bill, why would you conceivably oppose that? Mr. Husseman, begin with you.

Mr. HUSSEMAN. Well, it changes the primary focus of the site selection process at this point from a scientific search to, are you willing to take the site if we give you enough money. Now, what——

The CHAIRMAN. Well, suppose somebody else took the site and they got the money, and they took it away from the State of Washington, would you oppose that, if the scientists told you that that site was a good site?

Mr. HUSSEMAN. If another State wishes to negotiate with the Department of Energy, that certainly is up to the leaders in that State. I find it unlikely, but you have got to have, number one, the willingness to go into that kind of negotiation, and secondly, you have to have a suitable site.

But if there is a State that has a suitable site that desires to enter into those negotiations, the State of Washington would not be, you know, it would be actually at that point not our business.

The CHAIRMAN. So you really do not, you just do not want it to be in Washington, but do you really oppose S. 839? I mean, would you rather not have——

Mr. HUSSEMAN. We do not think it is a good idea.

The CHAIRMAN. How about you, Mr. Frishman?

Mr. FRISHMAN. We think that——

The CHAIRMAN. I mean, I heard what you said about you have got to give the money back if you decide and that the EIS and all that. But I mean if it makes it more likely for somebody else to take these benefits, you would not oppose that, would you?

Mr. FRISHMAN. We are in a situation where we are, maybe for the first time in our history, in a difficult financial situation in Texas. But at the same time we are committed to the principle that any repository be assuredly a safe repository, wherever it is in the nation.

And at this point we feel that it is premature to make the very, very difficult technical judgment about whether the candidate site is sufficiently safe to sign up to essentially receive not only the benefits of the incentive funds, but also to sign up to be a co-applicant for a site upon which we have very severe technical doubts at this time.

The CHAIRMAN. They do not have to be a co-applicant. They simply have to agree to cooperate and they can have their input through the process that is provided in the bill. We create a commission in the bill that would be, to say they are an arbitrator is not quite right.

But to say that they are there to deal with questions and that they can hire technical expertise, is correct. And you certainly would not surrender your right to participate actively, very actively in the process. It is not the idea, but we do not want a lot of lawsuits and just say on the one hand, on the other hand try to frustrate the process.

Mr. FRISHMAN. Mr. Chairman, first of all, if I am misunderstanding the language and intent of the bill, I certainly would like to know that. It is your bill and I feel instructed at this point.

But the way in which we view the requirements for the actions of the signatory of such an agreement, yes, we may talk. We may talk with the Department of Energy, we may talk with the Nuclear Regulatory Commission. But we do not have the ability to in fact participate in a decision process with them.

The bill as written and as we understand it puts us in a position where we can talk but the talk has no effect——

The CHAIRMAN. I can tell you that that part is wrong.

Mr. FRISHMAN. And we must sign away our legal position relative to the licensing process.

The CHAIRMAN. Well, you are right. You can not file lawsuits. But you can——

Mr. FRISHMAN. Well, I view it as putting us in the position where if we, for technical reasons, decide we must appear as an intervener in the regulatory process and the licensing process of the Nuclear Regulatory Commission, that would be under this bill sufficient grounds for the Secretary to find us in a position of default.

The CHAIRMAN. You see, one of the problems is that, in Europe for example, and they do not do everything right. But I can tell you that their repositories are at least as safe as ours. In fact all of their nuclear facilities are at least as safe as ours. They build them at a fraction of the cost.

The main difference is that here we have lawyers in an adversary proceeding designed to have perfect legal decisions, but not perfect scientific decisions. We are trying to move this from the courtroom, and let the scientists deal with it.

And we do provide, in fact it is very much our intent, we have a review panel set up here, designed to give the greatest input and the greatest participation from the State that is possible, plus a plan to finance that. Now that is not going to satisfy the lawyers, not to be able to go to court.

But if you think you can get the best safety out of the courtrooms, I think you are wrong. I have been dealing with these nuclear bills for a long time and we also fashion them with a new legal bell or whistle, that always adds to the cost. Invariably it adds to the cost but it rarely adds to the safety of it.

Mr. FRISHMAN. I would like to respond in one way, and that is that the process of a licensing proceeding with the Nuclear Regulatory Commission can be an adversary proceeding. And as opposed to a courtroom situation. You have a civil proceeding in which the premium is not on legal manipulation, but on in fact ferreting out the greatest technical assurance and truth possible.

And what we see in your bill is that we would not have the ability to participate in that type of a proceeding, bringing facts and bringing facts of science, in order to assure the highest quality decision of the commission.

The CHAIRMAN. The highest quality legal decision, you are very right.

Mr. FRISHMAN. We are not seeking to go to court. We do feel there is great value in the opportunity to participate fully in the licensing proceeding though.

The CHAIRMAN. Well, if participate fully means another lawsuit and another delay, we were at Forsmark, the Swedish facility and in connection with it they have a nuclear plant there which they built in 4½ years. You know how long it takes to build one in this country?

Do you think that ours are safer than theirs? No. The highest, latest facilities that they have are as safely built. But the difference is, it takes three times as long here because we have to go to court.

We have to ring all these legal bells and whistles and have these paper trails, and almost without exception around the world they do not think that contributes to safety. And I do not think it would contribute to safety of nuclear waste.

I do not mind spending extra billions of dollars for safety. But save me from my colleagues at the bar, who just want another lawsuit, another hearing, another series of briefs, another series of interrogatories.

Lawyers do not know anything about nuclear matters, by and large. You know, we can sort of talk with a surface familiarity with it. But we cannot really deal with tectonics and water migration and all that. The National Academy of Sciences and PhD's and those kind of people ought to do that in my judgment.

Well I have already taken too long on this question. Let me just say that S. 839 is not intended to be anti-Nevada, anti-Washington or anti-Texas. To the contrary, I mean, I would have thought that you would say, well look, we do not want this nuclear waste dump. We do not like the process. We do not like anything about it.

But if we have to have it, the $100 million a year, which is serious money, which can educate a lot of kids. I mean, you could create the best educational system, that is what we are worried about in my State now. We do not have the money to do it.

You could create the best educational system in the world, without having to sacrifice anything on safety. And do not think that this system is going to be delayed because you do not like it. If you have got some good scientific objections, which so far the National Academy of Sciences and NRC says, no, says the system ought to go forward.

I would urge you to think about this thing. I mean, do not just pass by $100 million a year, every year, because the polls might show the folks back home right now do not understand nuclear waste and they think it is going to explode, they think it is going to be some kind of gases creeping around.

Look, scientifically, that is not a problem. The scientists tell us that. I mean, they really do. We have been over there and not just in Europe, our local scientists tell us that. Do they store nuclear weapons at Nellis Air Force Base?

Governor **Bryan**. There are some nuclear weapons there.

The **Chairman**. Do you know those nuclear weapons, by the way, have insensitive high explosives around them? In a fire they can blow up. I do not mean you would have a nuclear explosion, but you would have plutonium spread over a much larger area. But does anybody object? No, no. They are familiar with it. They think it is an easy problem to deal with.

As I say, you have got 550 to 600 holes filled with plutonium and iodine and cesium and strontium and all these other things, and just uncontained. I mean, if the water comes through, if an underground stream comes through, you have an earthquake or whatever, I mean it is in the water supplies. Anybody worried about that? No. Send us some more.

But when it comes to nuclear waste, when it comes to nuclear waste as to which the scientists are virtually in agreement, that it can be done absolutely safely, people say, oh my God, we are going to be made the waste dump of the world.

Well, I understand, as I say, the politics of it. And I do not mean to make light of that. That is my business. But I urge you and I urge your folks back home to say, well, let us think about this thing a while. Before you go off too far, too irrevocably, and say, let us think about this thing and then let your folks back in Nevada or Washington or Texas contemplate $100 million a year, because that is serious money.

Governor, you wanted to say one more thing, and I have questioned too long here.

Governor BRYAN. Mr. Chairman, I think that with all due respect to you, I think the problem is more fundamental, and that is, you just can not buy public trust and public confidence. And I think that is——

The CHAIRMAN. Unless the price is very good. [Laughter.]

Governor BRYAN. Well, you know, if that were true, and again with the greatest respect to you, you have spoken of your situation in Louisiana. As you know, at one time the salt domes there were being considered. I do not know the scientific technology, but maybe, it is a value judgment I suppose, but our concern is——

The CHAIRMAN. Listen, for $100 million a year they may be looking at it. There may be some other areas as well, by the way.

Governor BRYAN. I think that you would have to agree, although the focus of your questions and our colloquy today back and forth has been in the scientific area, I think you would also have to agree that it is a legitimate concern that each State be treated with fairness.

You have cited your experiences in Europe and as I understand those, and again I defer to your first hand experience because I have not been there, but in Europe it is my understanding that they tend to co-locate. That is, where the nuclear waste is generated it is also stored, or in reasonable proximity thereto.

If that is sound, why is it not sound in the United States? In other words, why in terms of the fairness issue, should a State or a region, in this case the West, that produces far less than the East, in effect by the arbitrary and capricious action of the Department of Energy, which goes to the fairness issue, be expected to assume all of that burden?

Certainly you never contemplated that. As a key Member working on the 1982 Policy Act, you contemplated that there would be fairness and the act itself builds in fairness, which caused all of us in the West to support it.

What has happened is that that program, through no fault of the Congress, has gotten off track. That is has been administered in such a callous disregard of the very notion of fairness that it has generated tremendous resistance in addition to the scientific concerns.

Setting aside those concerns for just a moment, Mr. Chairman, it seems to me that it is not fair, it is not reasonable for us not to examine, has the Act been fairly implemented?

Have the States that are selected, have they been fairly considered in the process? And conversely have there been other sites that would be equally suitable or applicable, that have been excluded because of some arbitrary, political manipulation on the part, not of the Congress, but of the Department of Energy?

And as you know, there is a body of evidence that what the Department of Energy has been involved in has been highly political and manipulative and that I would say in all due respect, Mr. Chairman, has created a tremendous wave of resentment and public anger, that maybe tends of overshadow, as you have tried to focus our questions this morning, on the scientific suitability.

And I would respectfully submit, they are sincere, they are real, they are genuine concerns that we have, at least in our State and I am sure that my colleagues from Washington and Texas share many of those concerns.

The CHAIRMAN. Thank you very much, Governor Bryan. I hope my colleagues will not take as long a period of time as I have in this questioning. But, Senator Hecht.

Senator HECHT. Thank you, Senator. I am a businessman. I am not an attorney, and I will not take as much time as the attorneys have taken. [Laughter.]

The CHAIRMAN. Touche.

Senator HECHT. Let us get down to the realities of life. Secretary Hodel testified before us not long ago, we are going to have a gas line by 1990. Our fuel bills are going to go up 3, 5, 10 times in the next few years. Factories are going to be closing down because they are not going to be competitive with the rest of the world.

We have to come to grips in this Committee with an energy policy. Now, all other countries, most every country is going into nuclear energy. Now that might not be the best, but as our oil diminishes, natural gas is not here forever, geothermal is not enough for the present time to keep us going, we have got to keep our competitiveness going with other countries.

Chernobyl proved that no nuclear plant is an island in itself. For us to have an America 10 years from now without an energy policy, without energy and to allow our factories to be closed and our competitiveness is not what I think we want and not farsighted for this committee.

Now Senator, probably on that trip we took, the one thing that struck me more than anything else is when we were in this one room, smaller than a basketball court, and all of the nuclear waste that France had generated since the end of 1950 to the present day, we walked over it, we did not have any type of special clothing, nothing. We walked over the whole thing in just one small area.

We are talking about a nuclear waste facility, and there is a lot of hysteria to it. We must grasp the total picture. This is just a small part of the total energy cycle. I agree with what you are doing with the incentives, but you are putting the third stage before the second stage.

I think these incentives should be for the MRS facilities and 30, 40, or 50 years from today should be for the final repository. And that is what I would like for you to consider on that.

Later on, modern technology, you know they told us they have reprocessed nearly down to about 3 percent. They get rid of 99 percent of the plutonium, what is left is one ten millionth of a particle. They are making more and more advances.

I feel that we are making this issue very complex, when it is very, very simple. As a businessman, we have seen it work. Let us keep America moving. Let us get an energy policy. Let us keep our factories going.

And I have a statement from the city of Las Vegas which I want to include into the record.

The CHAIRMAN. Without objection.

[The statement referred to follows:]

TESTIMONY

CITY OF LAS VEGAS, NEVADA

U.S. SENATE ENERGY COMMITTEE

APRIL 29, 1987

MR. CHAIRMAN, MEMBERS OF THE ENERGY COMMITTEE:

THE CITY OF LAS VEGAS IS HERE TODAY BECAUSE IT IS VERY CONCERNED ABOUT THE DIRECTION THE PROCESS FOR SELECTING THE NATION'S FIRST NUCLEAR WASTE REPOSITORY IS PROGRESSING. LAS VEGAS' POSITION HAS ALWAYS BEEN THAT THE MOST CRITICAL ASPECT OF THE ENTIRE NUCLEAR WASTE PROGRAM IS THE DETERMINATION OF THE SAFEST, MOST SUITABLE SITE. THERE ARE STILL SERIOUS TECHNICAL QUESTIONS AS TO WHETHER YUCCA MOUNTAIN IS, IN FACT, SUITABLE FOR NUCLEAR WASTE STORAGE, AND THE CITY OF LAS VEGAS BELIEVES IT IS PREMATURE TO DISCUSS ECONOMIC INCENTIVES UNTIL THE SAFEST, MOST SUITABLE SITE HAS BEEN IDENTIFIED. IF YUCCA MOUNTAIN IS ULTIMATELY SELECTED AS THE SAFEST AND MOST SUITABLE SITE, THERE IS THEN PLENTY OF TIME AND OPPORTUNITY TO NEGOTIATE SUITABLE ECONOMIC INCENTIVES.

LAS VEGAS IS LOCATED APPROXIMATELY 100 MILES SOUTHEAST OF YUCCA MOUNTAIN AND IS THE CENTRAL CITY IN THE METROPOLITAN AREA'S RAPIDLY GROWING POPULATION OF 550,000, AND THE ISSUE OF SAFETY IS THE FOREMOST NUCLEAR WASTE CONSIDERATION ON THE MINDS OF THESE CITIZENS. ADDITIONALLY, THE LARGEST CITY IN NEVADA SERVES AS THE CENTER OF THE STATE'S SOUTHERN TRANSPORTATION NETWORK. UNLIKE MANY CITIES IN THE EAST, ALL MAJOR INTERSTATE AND U.S. HIGHWAY AND MAINLINE RAIL TRACKS WHICH WOULD LIKELY BE USED TO SHIP NUCLEAR WASTE TRAVERSE LAS VEGAS. IN ADDITION, UNION PACIFIC'S RAIL YARD WHICH IS USED TO STORE, SWITCH, AND ASSEMBLE TRAINS IS LOCATED WITHIN 100 YARDS OF LAS VEGAS' CENTRAL BUSINESS DISTRICT.

FOR THESE REASONS LAS VEGAS HAS BEEN VERY INVOLVED AND INTERESTED IN THE TECHNICAL STUDIES THE STATE AND THE DEPARTMENT OF ENERGY (D.O.E.) HAVE BEEN UNDERTAKING TO DETERMINE THE SUITABILITY OF YUCCA MOUNTAIN. AS WE UNDERSTAND IT, THE INTENT OF THE NUCLEAR WASTE POLICY ACT (NWPA) OF 1982 WAS A CONGRESSIONAL SOLUTION, DEBATED FOR MANY YEARS, TO THE PROBLEM OF STORING OUR NATION'S NUCLEAR WASTE. THE BASIC PROVISIONS OF THIS ACT WERE DESIGNED TO ESTABLISH A REGIONALLY BALANCED, FAIR AND TECHNICALLY SOUND SITING PROCESS THAT WOULD HAVE CREDIBILITY AND ACCEPTABILITY. LAS VEGAS, AND THE STATE OF NEVADA, HAVE PURSUED THIS GOAL FROM THE BEGINNING STRIVING DILIGENTLY TO DETERMINE IF, IN FACT, YUCCA MOUNTAIN IS TECHNICALLY SUITABLE FOR THE STORAGE OF NUCLEAR WASTE. THESE EFFORTS CONTINUE TO THIS DAY, WITH OVERRIDING JUDGEMENT OF THE BEST SITE TO LOCATE A NUCLEAR WASTE REPOSITORY WITHHELD UNTIL SIMILAR TECHNICAL STUDIES ARE COMPLETED IN WASHINGTON AND TEXAS. IT IS IRONIC, AND FRUSTRATING, FOR US IN LAS VEGAS TO WATCH THOSE IN WASHINGTON, D.C. TURN AWAY FROM THE ACT THEY FOSTERED AND VIOLATE MANY OF THE PRINCIPLES OF THE ACT WE SEEK TO ADHERE TO.

MANY OF THE STUDIES OCCURRING IN NEVADA PRESENTLY HAVE IDENTIFIED TECHNICAL DIFFICULTIES IN THE SITE CHARACTERIZATION OF YUCCA MOUNTAIN. NEVADA'S ANALYSIS SUGGESTS THAT THERE ARE AT LEAST FOUR MAJOR POTENTIALLY DISQUALIFYING FEATURES OF THE SITE. FOR EXAMPLE, BASED ON THE AVAILABLE EVIDENCE, IT IS QUITE REASONABLE TO ASSUME THAT A LARGE EARTHQUAKE WITH ACCOMPANYING SURFACE FAULTING COULD POSSIBLY OCCUR WITHIN THE LIFETIME OF THE REPOSITORY, THUS CREATING A SIGNIFICANT POSSIBILITY OF A LOSS OF REPOSITORY INTEGRITY.

SECONDLY, NEVADA'S CALCULATIONS REGARDING THE GEOHYDROLOGIC FEATURES OF THE SITE SUGGEST THE RANGE OF GROUNDWATER TRAVEL COULD BE AS SHORT AS 900 YEARS WHICH WOULD DISQUALIFY THE SITE UNDER PRESENT GUIDELINES. THIRD, THE ATOMIC WEAPONS TESTING AT THE NEVADA TEST SITE MAY DISQUALIFY THE YUCCA MOUNTAIN SITE BECAUSE THE SITING GUIDELINES DISQUALIFY ANY SITE WHERE ATOMIC ENERGY DEFENSE ACTIVITIES CONFLICT IRRECONCILABLY WITH RESPOSITORY ACTIVITIES. FINALLY, PRELIMINARY TESTS HAVE SUGGESTED THAT YUCCA MOUNTAIN MAY HAVE TO BE DISQUALIFIED BECAUSE THE SITE MAY DEGRADE WATER QUALITY OR REDUCE WATER QUANTITIES FOR HUMAN CONSUMPTION OR CROP IRRIGATION.

WHILE NEVADA PRESSES ON WITH ITS TECHNICAL STUDIES, HOWEVER, THE PROCESS TO SELECT THE SAFEST SITE HAS INCREASINGLY DEGENERATED INTO A POLITICAL FREE-FOR-ALL. CONGRESS WENT TO GREAT LENGTHS IN 1982 TO ENSURE THAT A SCIENTIFICALLY BASED, FAIR AND CREDIBLE SITING PROCESS COULD BE DEVELOPED. ONLY BY HAVING SUCH A PROCEDURE CAN THE NATION EVER HOPE TO GAIN ENOUGH PUBLIC AND POLITICAL ACCEPTANCE TO LOCATE A REPOSITORY IN ANY STATE. EVER SINCE THE DEPARTMENT OF ENERGY DECIDED TO END THE SEARCH FOR AN EASTERN REPOSITORY, IT HAS CONTINUALLY DISREGARDED THE ACT AND DONE A TERRIBLE JOB OF IMPLEMENTING THIS PROGRAM. TODAY, THERE IS SIMPLY NO CREDIBILITY LEFT.

NOW THE CITY OF LAS VEGAS WOULD LIKE TO TURN ITS ATTENTION TO THE KEY COMPONENTS OF SENATOR JOHNSTON'S BILL ON ECONOMIC INCENTIVES. WHILE THE CITY APPROVES OF CONGRESS' RECOGNITION THAT COMPENSATION SHOULD BE FORTHCOMING TO ANY STATE WHICH HAS THE TECHNICAL CAPABILITIES TO STORE NUCLEAR WASTE, IT ALSO FEELS THAT THESE INCENTIVES ARE MISDIRECTED. IN SHORT, IF THE AMOUNT OF MONEY BEING PROPOSED IS AVAILABLE, THE CITY FEELS IT SHOULD BE DIRECTED TO ALTERNATIVE METHODS OF HANDLING NUCLEAR WASTE.

FOR EXAMPLE, IN A RECENT STUDY OF THE METHODS WHICH MAJOR COUNTRIES ARE USING TO HANDLE THEIR NUCLEAR WASTE, ONLY THE UNITED STATES AND CANADA DO NOT REPROCESS IT. IF FUNDS WERE SPENT ON REPROCESSING, ON A VOLUME BASIS, THERE WOULD BE LESS RADIOACTIVE WASTE. IF REPROCESSING WERE COMBINED WITH VITRIFICATION THE WASTE WOULD THEN BE INERT WITH RESPECT TO THE NATURAL ENVIRONMENT, MORE SUITABLE FOR STORAGE, AND HAVE LESS CHANCE OF COMING IN CONTACT WITH THE ENVIRONMENT. IT IS THE CITY'S UNDERSTANDING THAT THE REASON REPROCESSING HASN'T BEEN CONSIDERED IS SIMPLY LACK OF MONEY. THIS BILL SEEMS TO US TO REMOVE THIS OBSTACLE.

IN SUMMARY, THE CITY OF LAS VEGAS STRONGLY SUPPORTS THE COMPLETION OF TEXAS', WASHINGTON'S AND NEVADA'S TECHNICAL STUDIES WHICH WERE MANDATED IN THE NUCLEAR WASTE POLICY ACT OF 1982. BEFORE ECONOMIC INCENTIVES ARE CONSIDERED, THE STUDIES WHICH FOCUS ON LOCATING THE SAFEST, MOST SUITABLE SITE FOR THE NATION'S FIRST REPOSITORY MUST BE COMPLETED.

SECONDLY, SELECTING YUCCA MOUNTAIN BY POLITICAL DEFAULT DISPENSES WITH ALL PUBLIC PARTICIPATION AND OBJECTIVITY WHICH WAS INITIALLY THE CORNERSTONE OF THE NUCLEAR WASTE POLICY ACT OF 1982. THE FACT THAT AN ECONOMIC INCENTIVE BILL HAS BEEN INTRODUCED TACITLY ACKNOWLEDGES THAT PUBLIC ACCEPTANCE OF ONE SITE THROUGH THE HIGH INTEGRITY INVOLVED IN THE SELECTION PROCESS, HAS BECOME A CASUALTY OF D.O.E.'S INEPT SITING PROCESS.

THIRD, WHETHER OR NOT YUCCA MOUNTAIN IS SELECTED, D.O.E. MUST ASSURE THE CITY OF LAS VEGAS THAT ALL SHIPMENTS OF RADIOACTIVE MATERIAL, BEGINNING WITH THE WASTE ISOLATION PILOT PLANT SHIPMENTS TO MEXICO IN 1990, ARE ABSOLUTELY SAFE.

FOURTH, WHILE ECONOMIC INCENTIVES ARE WARRANTED TO ANY STATE WHICH IS OBJECTIVELY SELECTED, A SUBSTANTIAL PORTION OF THE AVAILABLE REVENUES SHOULD FOCUS ON ALTERNATIVE METHODS OF HANDLING NUCLEAR WASTE WITH THE PARAMOUNT CONCERN SAFETY, NOT MONEY.

FINALLY, THE CITY OF LAS VEGAS BELIEVES THAT THIS HEARING WAS PROMPTED BECAUSE THE HANDLING OF THE NUCLEAR WASTE PROGRAM BY D.O.E. IS IN TOTAL DISARRAY. UNFORTUNATELY, THERE IS NO QUICK FIX. IF THE EXPERIENCE OF THE '60'S TAUGHT US ANYTHING IT SHOULD HAVE TAUGHT US THAT DIFFICULT AND SEEMINGLY INTRACTABLE PROBLEMS ARE NOT SOLVED, NOR DISAPPEAR, SIMPLY BY THROWING LARGE SUMS OF MONEY AT THE PROBLEMS.

ON THE CONTRARY, THE USUAL RESULT IS THE EXPENDITURE OF HUGE SUMS OVER SEVERAL YEARS, THE INBREEDING OF A NEW AND PERPETUAL PROGRAM, WITH A SOLUTION NO CLOSER THAN WHEN THE PROGRAM BEGAN.

THE CITY OF LAS VEGAS HOPES THESE PAST MISTAKES ARE NOT REPEATED.

Senator HECHT. I thank our Governor for traveling all the way from Nevada. And we have got a few other people who are going to testify in a few moments. And as a businessman I will shut up.

The CHAIRMAN. Thank you very much, Senator Hecht. You set a good standard for all of us.

Let me just say that that basketball court area that you talked about, we did indeed walk on top of the highest level nuclear waste in France. We were separated with about 4 feet of concrete, which was, the 4 feet of concrete, below that was the nuclear waste was enough to shield us from the most deadly rays that, gamma rays——

Senator HECHT. But we are not talking about 2,000 feet into the ground. We are talking 4 feet of concrete which could be brought up if the need arises at a later time.

The CHAIRMAN. It kind of corks, concrete corks 4 feet, which they could take out and pull the vitrified waste out. Senator Reid.

Senator REID. I have been wondering where the two of you have been going so much lately.

Mr. Chairman, you talked about your father saying the country is well-served with a well-paid bar. Well, my dad said the same thing, but he was talking about a different kind of bar.

Governor Bryan, do you remember those days when we used to go watch the nuclear bombs go off, and scientists told us everything was OK. And of course evidence has since indicated that they were not OK. So scientists also can be wrong.

As I was looking through my mail this morning before coming here, I saw a "Dear Colleague" from Senator Hatfield, requesting co-sponsors for his legislation which would allow, as I understood the letter, border States and also States that had aquifers that connected to the States where the repositories were going to be located, that they also be part of the site selection process.

Do you have any comments on that legislation?

Governor BRYAN. I think that is appropriate, and I would certainly agree with that, Senator. And I could just embellish a little bit. As you know I grew up, as Senator Reid and Senator Hecht know, in Las Vegas, Mr. Chairman, and we were so enthusiastic with what we had been told at my high school annual in 1953. On the front cover was the nuclear mushroom cloud.

I recall as you do, who I believe may be my senior by a year or two, Mr. Chairman, that the Atomic Energy Commission at that time had films telling us how safe it was. I recall the film showing people in St. George, Utah, which, as you know, Mr. Chairman, members of the community are now involved in that suit in which issues have been raised as to what the health effects have been in that.

But as you point out, Senator Reid, we were reassured that this was all safe, by the same scientific community that reassures us today.

Senator REID. I also think that we have not heard enough from, and I noted in the testimony that you gave, that some of the largest western cities, St. Louis, Omaha, Des Moines, Denver, will be the routes through which this nuclear waste will travel, culminating in a 3,000 run from this part of the country to the West. I think that we should hear more from them.

I would also, Governor Bryan, ask a question that I think the answer is obvious. If this material is so safe, why are other States not clamoring for it?

Governor BRYAN. Well, I think they have obviously the same concerns, Senator, that we have in Nevada. That if it were as simple as the scientists would tell us, I do not think we would be involved in the process as complex as it is.

Senator REID. I have one last question and if the chairman would allow I have got some other questions I will submit in writing, but there is no need to take more time here.

I do have one question, Mr. Frishman. I was intrigued by your testimony. What is the reason the DOE is bringing hundreds and hundreds of workers to this area?

Mr. FRISHMAN. At this point the Department of Energy has acquired no land in Deaf Smith County for this site.

Senator REID. Has acquired no land?

Mr. FRISHMAN. No land. The Department is in the process of moving its prime integrator contractor and its salt repository project office from Columbus, Ohio, where it is housed at the Battelle facility to the city of Herford.

The job that that office is going to be doing in Herford once it moves there is under its own roof, writing a site characterization plan. They are not yet in a position to where they can begin any field work on a site, even if and when they are successful in acquiring land.

This is primarily and in fact only an office site to write a site characterization plan, which will take a least a year from now before it comes to public hearing according to the Department's schedules.

Senator REID. 800 people?

Mr. FRISHMAN. They could sit in Columbus, Ohio. They could sit in New York City. They could sit in Washington, DC, and do the same job.

Senator REID. But 800 people to do this?

Mr. FRISHMAN. Approximately 400 people in that office. The field services contractor that they now expect to be housed in Amarillo will have an additional 800 employees, most of which or a large number of which will be working on-site, if there is a site.

Senator REID. Would you rather them stay in New York City?

Mr. FRISHMAN. At this point until we can determine a means to fairly treat the communities in terms of—we are very certain that the Congress did not intend that the local taxpayers of, for instance, a city of 900 inhabitants—we do not believe the Congress intended that those taxpayers be in any way responsible for the financial impacts and the negative financial impacts of essentially a boom community with no certain knowledge of when and where the bust will be. We do not think the Congress intended this to happen.

We in the nuclear wastes program office and the governor feel that it is unnecessary to create such an impact, when in fact it can be avoided until we can find together some fair means of assuring that these communities are not being financially impacted unnecessarily.

The CHAIRMAN. Thank you. That is a very good point. And really, that is the first I have heard about the negative impacts of sending in all these employees. We will certainly work with you on that.

Mr. FRISHMAN. It has just been in the last 2 weeks that we have, after about 2 years of effort to get some determination, that the Department of Energy representatives have told a local government board that this will be the case, and also that it will apply to the other small communities in the area, including Herford.

The CHAIRMAN. You might give us your suggestions on what we can do about that.

Mr. FRISHMAN. Thank you. We will be.

The CHAIRMAN. We will be glad to help on that. Gentlemen, thank you very much. You have been very effective advocates for your position.

I hope you will not be frozen in concrete at least on that S. 839. I do not expect that there will be a lot of flag waving about how thrilled you are about nuclear waste, even with the strong evidence you have heard today. But at least do not turn down the money prematurely, because that can help. Thank you very much.

Governor BRYAN. Thank you very much, Mr. Chairman.

Mr. FRISHMAN. Thank you.

The CHAIRMAN. Next we have a local government panel. Mr. Joseph C. King is city manager at Lexington, Virginia, and he was a former assistant city manager for Oak Ridge, Tennessee, and was the coordinator of the Clinch River Monitored Retrievable Storage Task Force that put together the local impact mitigation proposal in 1985.

Ron Jones is commissioner in Benton County, Washington. Joe S. Garcia, Jr. is chairman of the board of commissioners of Nye County, Nevada. And Troy Don Moore is commissioner in Deaf Smith County, Texas.

Gentlemen, we are delighted to have you this morning. We will begin with Mr. King. And I would say to each of you gentlemen that we would prefer that you summarize your statements. They are easier for us to understand. We will read the written statements. We would prefer that you summarize them. That would give us time for questioning. Otherwise we are going to really not have much time for questions.

Senator REID. Mr. Chairman, if I could make a brief comment. I am going to have to preside on the Senate floor in a few minutes. I apologize, especially to Mr. Garcia and the rest of the panelists for not being able to be here, but I do have to do that.

The CHAIRMAN. Well, we are delighted to have had you. Please proceed, Mr. King.

STATEMENT OF JOSEPH C. KING, CITY MANAGER, LEXINGTON, VA

Mr. KING. Thank you. My name is Joe King. I am the City Manager of Lexington, Virginia. Prior to my current assignment, as the Chairman has pointed out, I spent several years in Oak Ridge, until July of 1986 as the Assistance City Manager there.

While I was in that capacity I was appointed the coordinator of the Clinch River MRS Task Force. The Committee may know that Task Force studied the MRS proposal for Roan County portion of Oak Ridge. Since leaving the City of Oak Ridge I have provided very limited consulting assistance to the waste deposit impact committee of Deaf Smith, Texas, sharing what we had learned in Oak Ridge with that group.

I have been invited here to speak on the proposed amendment to the Nuclear Waste Policy Act, and also to speak to the issue of socio-economic impacts of a nuclear waste facility. While I have to reference the MRS and my experience in that regard, I do not speak for the City of Oak Ridge, or Roan County. I am speaking from my own perspective.

I would be happy to summarize my statement and submit my written statement for the record. The major point that I make in my statement is that the most important socio-economic impact, in my opinion, of siting an MRS has to do with the fact that this will be a DOE administered facility, and more importantly, unless the Deaf Smith County is chosen for the repository, will be on a DOE reservation.

I think the most significant point I am trying to make in stating that distinction is that from a local government perspective, from a local community, you are speaking about a community that has had many years of experience in dealing with DOE and its predecessor agencies.

Having lived in Oak Ridge and visited DOE facilities elsewhere, it is my perception that DOE is not considered generally speaking a good corporate citizen. The Nuclear Waste Policy Act calls for a partnership to be established between DOE and the community that has never occurred before.

In fact, I would suggest from my own experience and observations that DOE has been reluctant to establish the kind of relationship we have come to expect a private industry to establish with its community, with regard to State and local officials and the community as a whole.

If I ever write a book from my experience and training as a public administrator, it will be on how the Federal Government in general and DOE in particular almost performs, behaves as a colonial power, with little regard to the local community or the States in which it locates.

I think local government officials tend to view DOE with very much of a mixed set of emotions. They are very appreciative of DOE's employment, the degree of prosperity it provides to the community, but also very resentful and frustrated by the lack of DOE's dedication to that community.

In my view State officials are even less appreciative of DOE's economic impacts. Former governor Alexander of Tennessee was ready to oppose the MRS and suggest that maybe the State had a just a little too much of the Federal Government and a little too much of the nuclear industry, and appeared to be ready to suggest that the local community and the State go through a rehabilitation program almost like drug withdrawal and let the Federal Government leave and somehow that gap of 17,000 jobs be filled by the private sector.

So I do not see that State government is always appreciative of the role the DOE has played in the economic development of the local community or the State. And without that appreciation I think they are even more resentful perhaps than the local government in terms of their skepticism and the long history of DOE avoidance of State oversight on environmental issues.

I think DOE has done some significant things in Oak Ridge in particular in cleaning up their environment, but the Oak Ridge community has suffered, I think, grave damage from a socio-economic point of view by virtue of DOE's cavalier attitude toward environmental protection in years past.

As I represented the Clinch River MRS Task Force and went across the State appearing in hearings, I was repeatedly asked how I or anybody else living in Oak Ridge could possibly subject the State to the kind of environmental insults that DOE was subjecting in return for short-lived economic gains that only we could appreciate.

You may see my judgment of DOE as unduly harsh. Perhaps not, given the kinds of statements this morning and in months past. But as a local government administrator, I regret that DOE has not taken the responsibility to establish good working relationships in the communities in which it is located, and with State and local officials.

I, from my own personal view, believe that nuclear energy is vital to this country, given the options that the Federal Government has had to consider. I believe that a MRS located in the eastern part of the country and a first repository located in the western part of the country makes sense.

My point is that DOE's tenure in Oak Ridge influenced the socioeconomic impact of the facility there in a unique way. Even those that are convinced that the facility could be safely constructed and operated have good reason to doubt that DOE can construct and manage one in a responsible manner.

In that perspective, I would like to comment just briefly on two aspects of your proposed amendment. First, having to do with the adequacy of impact mitigation funding.

In the preparation of the Clinch River MRS Task Force report, one of our primary concerns beyond environmental was that the facility would not contribute to the community's effort to expand and diversify its economy. As it later turned out these were the very concerns that former Governor Alexander stated as he developed his position in opposition to the MRS.

It was our view that the Federal Government should make sizable financial contributions to State and local governments impacted in order to mitigate this. My reading of your proposed amendment is that at least with regard to the pre-operational phase, S. 839 does an adequate job in that regard. I defer to the Oak Ridge and Roan County representatives to speak for themselves.

Insofar as grants equivalent to taxes are concerned, section 116(c) of the Nuclear Waste Policy Act provides that States and local governments representing repository sites would receive grants equivalent to taxes for an operational repository.

Since your proposed amendment supplements articles 1 through 3 of the Nuclear Waste Policy Act, leaving all of those intact, it appear to me that a local government representing an MRS site would not receive, does not have authorization for taxes equivalent or grants equivalent to taxes.

So I do believe there is a discrepancy there that should be addressed. A repository site would receive both the incentive payment and a grant equivalent to taxes, whereas the MRS site would not.

In terms of its application to siting of nuclear waste facilities, I think funding for impact mitigation, incentive agreements and tax equivalence is entirely appropriate. Private industries typically provide financial support in excess of the direct costs of services rendered by State and local governments. I think it is only appropriate that DOE do the same.

In fact I believe and I think your amendment indicates a belief in this regard as well, that a community willing to house a nuclear waste facility should receive financial compensation at a level sufficient to more than assure the fiscal stability of the local and State governments.

In terms of non-financial mitigative measures, there is one aspect addressed in S. 839 that speaks to a proposal made by the Clinch River MRS Task Force in the establishment of a review panel to represent State and local interests in the development, construction and operation of the facility.

I would defer again to the local officials to determine whether in their opinion that is adequate. I think there are two basic issues in the non-financial area that should be addressed. One, I think that local input must be assured in the planning, construction and operational stages of a facility.

Two, I think a commitment of DOE and its primary contractors to the community in which it locates a nuclear waste facility should be assured. You have heard earlier this morning that the entry into a community of large numbers of people without adequate housing or school facilities may not be a positive impact.

On the other hand, I think that DOE in the past has been too prone to having operations headquartered from distant sites, and one of the biggest problems I see in a local community is that the people do not see and deal with DOE officials or their contractors on a day to day basis.

I may take a different opinion than one stated earlier. I think DOE officials and their contractors should be encouraged to locate in the communities in which they plan to put facilities, that DOE and its contractors should accept, adopt formal community involvement programs, which encourage corporate investment and employee participation in local affairs.

While somewhat simplistic, I believe that would do a lot toward mending some of the strained relations that DOE has brought about by virtue of its operations in the past.

I thank the committee for the opportunity to speak this morning.

[The prepared statement of Mr. King follows:]

TESTIMONY OF JOSEPH C. KING

BEFORE THE

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

APRIL 29, 1987

Good morning. My name is Joseph C. King. I am City Manager of Lexington, Virginia. Prior to my current assignment, I served for over eight years with the City of Oak Ridge, Tennessee, until July of 1986 as Assistant City Manager there. While in that capacity, I was appointed the Coordinator of the Clinch River MRS Task Force. As the Committee may know, the Clinch River MRS Task Force was jointly formed by Roane County, Tennessee and the City of Oak Ridge to assess the Department of Energy's proposal to construct a Monitored Retrievable Storage (MRS) facility in one of two sites located in the Roane County portion of Oak Ridge. Since leaving the City of Oak Ridge, I have provided limited consulting service to the Waste Deposit Impact Committee of Deaf Smith, Texas, sharing what I could of the experience we gained in Oak Ridge.

I have been invited here this morning to comment on S.839 and the socioeconomic issues involved in the siting of a nuclear waste facility, particularly with regard to local participation and impact mitigation. While I will reference the MRS in my comments, I am here to represent my own opinions, not those of the City of Oak Ridge, Roane County or the Clinch River MRS Task Force. The Committee will hear the testimony of individuals who can officially represent those communities later this afternoon.

As I begin, let me note a basic, but important distinction regarding potential socioeconomic impacts. When we speak of a repository or a MRS, we are not referring simply to a nuclear waste facility, but a DOE administered nuclear waste facility. More importantly, unless the Deaf Smith County site is selected for the repository, we are referring to facilities that will be located on federal reservations where DOE and its predecessor agencies have conducted business for decades.

For reasons of improved security, avoidance of land acquisition problems, reduced political opposition, and ease of licensing, DOE reservations offer attractive sites for nuclear waste facilities. There are, however, offsetting disadvantages from a socioeconomic point of view. Having lived in Oak Ridge and visited DOE facilities elsewhere, it is my perception that DOE is generally considered a poor corporate citizen wherever its facilities are located. The Nuclear Waste Policy Act calls for a partnership between DOE and community that has never before existed. Given DOE's historical reluctance to establish any such relationship, I think it natural that state and local officials remain skeptical regarding DOE's future performance. Even Ben

Rusche and the staff of the Office of Civilian Radioactive Waste Management, who I believe are sincerely attempting to pursue meaningful partnerships with waste site communities, will find it difficult to overcome this skepticism.

It seems to me that DOE has behaved almost as a colonial power with regard to the state and local government and the communities in which it operates facilities. In Tennessee, DOE has for years successfully shielded itself from oversight by local and state health and safety regulations and has maintained a deliberate detachment from the community in which it operates. Local government officials there tend to view DOE with mixed emotions, appreciative of the relatively stable employment base and degree of economic prosperity it has provided over the years, but frustrated with its lack of corporate dedication to the community. In my view, state officials are less appreciative of DOE's economic contributions and even more resentful of the agency's historical reluctance to recognize the state's environmental oversight role. While residents in and around a places like Oak Ridge are far more comfortable with nuclear technology than are those in Lexington, Virginia where I now live, state and local officials most familiar with the Department of Energy have endured a long, unhappy relationship with DOE on environmental and socioeconomic issues.

Significant progress has recently been made on the environmental front in Oak Ridge, thanks to many millions of dollars worth of remedial activities and the federal government's commitment to correct its operational problems there. The Oak Ridge community has, nevertheless, suffered harm with regard to its desired image as a safe and desirable place in which to live and do business. As I represented the Clinch River MRS Task Force in public hearings across Tennessee, I was repeatedly asked how our community could possibly be willing to sacrifice the health and safety of the State in return for short-lived economic gain we alone had enjoyed. While many of those concerns expressed can be discounted as naive or perhaps even written off as anti-nuclear paranoia, it is my belief that DOE's cavalier attitude of the past regarding environmental protection issues directly impacts on public perceptions of the MRS in Tennessee.

You may judge my perception of DOE as unduly harsh, but as a local government administrator I find it unfortunate that the agency has not given proper attention to the responsibilities of corporate citizenship we have come to expect of private sector industries. No private utility would today attempt to site or operate, a nuclear power processing facility absent an effective working relationship with state and local officials. Most utilities also allocate considerable resources in an attempt to maintain strong community bonds. In my opinion, the DOE in Oak

Ridge has for the most part not perceived such responsibilities as part of its congressional mandate. Accordingly, the notification and consultation provisions of the Nuclear Waste Policy Act have been adhered to with inadequate imagination and enthusiasm. From my understanding of actions taken with regard to the repository siting activities, I conclude the same or worse has occurred elsewhere.

I witnessed excessive "DOE bashing" during my tenure as Coordinator of the Clinch River MRS Task Force and wish to refrain from more here. I believe nuclear energy has a vital role to play in this country and appreciate that the DOE has an obligation to safely dispose of a steadily growing amount of spent fuel. Given the disposal options available, the combination of an MRS in Oak Ridge and geologic repository at one of the western sites is a logical solution. My point is that DOE's tenure in Oak Ridge and in two of the sites selected for repository characterization influence the socioeconomic impact of the proposed nuclear waste facilities in a unique way. Even those convinced that a the technology exits to safely construct and operate such a facility have reason to doubt that DOE can construct and manage one in a responsible manner.

It is with those observations that I will briefly share my views on two general points with regard to S.839 -- the adequacy of impact mitigation funding, and the extent to which it accommodates nonfinancial mitigative measures.

Adequacy of Impact Mitigation Funding

In preparation of the Clinch River MRS Task Force recommendations on socioeconomic mitigation, our primary concern was that the MRS would impede the commmunity's efforts to diversify and expand its commercial/industrial base. As it later turned out, these were the primary misgivings of former Tennessee Governor Alexander as he developed his position in opposition of the MRS. It was our view that the addition of another large, federal facility exempt from local taxation would not contribute realization of our economic development goals; nor would the construction of a facility widely perceived to be a dangerous waste dump.

It was our position that the only direct method available to mitigate this impact was sizable financial payments to the state and local governments directly affected. This would assure sufficient revenues to stabilize the public financial base and provide the means to attract new industry, as well as the resources necessary to support promotional efforts designed to offset the potentially negative image a nuclear waste facility might impose on the community. Annual payments fully equivalent to the local and state taxes that would be generated on a constructed commercial facility valued at $1 billion (the estimated value of the MRS) were proposed beginning with authorization of the facility and continuing through decommissioning.

While I will defer to the judgement of Tennessee officials, the funding provided for in S.839 would appear adequate to accommodate Task Force recommendations during the preoperational phase, assuming the set-aside for local governments is properly apportioned to Roane County and the City of Oak Ridge. However, it does not appear that S.839 affords the MRS the same status as a repository insofar as grants equivalent to taxes are concerned once the facility becomes operational. Section 116(c), of the Nuclear Waste Policy Act provides that state and local governments representing a repository site will receive such payments; the MRS, on the other hand, is eligible for impact assistance, but specifically excluded from the repository provisions of Section 116(c). Since S.839 supplements Articles I through III of the Nuclear Waste Policy Act, a local government representing a repository site would receive both grants equivalent to taxes and payments made through the envisioned incentive agreements. I think it only equitable that any amendment to the Act treat MRS and repository sites equally in this regard.

In terms of its application to the siting of nuclear waste facilities in general, it is my opinion that funding for impact mitigation, incentive agreements, and tax equivalents is entirely appropriate. Private sector industries typically provide financial support in excess of the direct cost of services rendered by the state and local governments serving them. It is only appropriate that DOE's nuclear waste facilities do likewise. I believe a community willing to house a facility which will handle and store nuclear waste from several other states should be compensated at a level sufficient to more than assure fiscal stability.

Nonfinancial Mitigative Measures

In consideration of its past relationship with DOE, the Clinch River MRS Task Force recommended several measures designed to encourage the federal government to take a more responsible corporate role in the community. While DOE responded favorably to the proposals in its MRS proposal, S.839 directly addresses the only one item proposed in the establishment of a "Review Panel" as part of an incentive agreement. I will again defer to the representatives from Tennessee to determine whether this satisfies their needs.

TESTIMONY OF JOSEPH C. KING APRIL 29, 1987

In terms of general applicability regarding the siting of nuclear waste facilities by DOE, I feel there are two important considerations from the local community's point of view:

First, local input must be assured in the planning, construction, and operational stages. Were a repository or a MRS a private sector facility, it would be subject to local oversight with regard to its construction and operation. While perhaps not accorded the official status of the Act's "consultation and cooperation" (C & C) agreements, DOE should be authorized to deal directly with local governments on matters affecting the immediate community in which a facility is to be sited.

Second, the commitment of DOE and its primary contractors to the community in which it locates a nuclear waste facility should be assured. In my opinion, acceptance of a nuclear waste facility in any community will require that DOE exercise good corporate citizenship. Project personnel should be encouraged to live and work in the repository and MRS communities rather than being headquartered in Washington D.C. or in some other distant location. Moreover, DOE and its contractors should adopt formal community involvement programs which encourage corporate investment and employee participation in local affairs.

While somewhat simplistic, I feel proper attention to these issues would provide an effective means of addressing the socioeconomic impacts of nuclear waste facilities.

I thank the Committee for the opportunity to share my views this morning.

The CHAIRMAN. Let me make one thing clear. Mr. King, when you were Assistant City Manager and Project Manager on MRS, you did get an application or you did make an agreement with DOE for the MRS at Oak Ridge, did you not?

Mr. KING. The community put forward a proposal. DOE's proposal to Congress, which at the time I left was still in a draft form and I frankly have not seen the latest. It took into account to a substantial degree all of the proposals put forward by the Clinch River MRS Task Force.

I would assume that some legal basis needs to be developed to make sure that those actions DOE proposed can be carried forward. S. 839 does that with regard to the review committee, and whether DOE can deliver——

The CHAIRMAN. The point is that I think you and the city fathers came into my office some time ago and were willing and anxious to have the MRS at Oak Ridge, albeit there are some complaints maybe with DOE. Is that correct?

Mr. KING. The position the task force took was that if certain mitigative measures were put into place that the MRS facility could be safety operated in Oak Ridge and could contribute to the local economy. I believe the local officials will have to speak for themselves as to whether that is an endorsement of the MRS in asking that the MRS be located there.

From my point of view, it was as close to an endorsement as you might expect to get.

The CHAIRMAN. Now, so far as you know, has there been any change in Oak Ridge?

Mr. KING. Again, I would have to have them speak for themselves. As far as I know, there has not.

The CHAIRMAN. Thank you.

Next we have Mr. Ron Jones, Commissioner in Benton County, Washington.

STATEMENT OF RON JONES, CHAIRMAN OF THE BOARD, BENTON COUNTY COMMISSIONERS, STATE OF WASHINGTON, AND CHAIRMAN, MID-COLUMBIA CONSORTIUM OF GOVERNMENTS

Mr. JONES. Thank you, Mr. Chairman. It is not very often that we get to come before U.S. Senators, and I think we all probably tend to be a little bit nervous. We did have the opportunity to meet last night and prepare our statements and work on them. I was supposed to start out, so I have been very hurriedly here crossing things out. So if it does not all match up, why please forgive me.

Mr. Chairman, I am Ron Jones, chairman of the Benton County Board of County Commissioners and chairman of Hanford area's Mid-Columbia Consortium of Governments. I have a brief statement to make on behalf of the several local governments appearing on this panel before you today, including the Consortium, the Waste Deposit Impact Committee from Texas, the Nye County Board of County Commissioners and the Roane County, Tennessee Board of County Commissioners.

The witnesses on this panel represent the people who will be the most directly impacted by development of a storage and disposal facility under the Nuclear Waste Policy Act. Our school districts, hospitals, social service agencies and other community infrastructures will absorb the primary impacts of characterization, construction and operation activities.

Our local water supplies must be protected and the benefits of life in our hometown secured and adjusted to the immediate reality of increased population and construction activity. Long after the dust has settled on our State vetoes and general public apprehension, the stigma of hosting the largest waste storage and deposit disposal facilities ever developed in this country will keep the local communities identified on the national map.

We refer to ourselves as situs governments, and we are working to organize now to gain recognition for our right to participate directly in the decisions that will affect us so deeply and for so many years to come.

We distinguish ourselves in certain respects from our states and from the many affected local governments that will also share in the risk and burdens of hosting waste management facilities.

We strongly support the central role the states have according to the Nuclear Waste Policy Act in overseeing the activities of the Department of Energy and the ultimate authority of the state to render the judgment whether these facilities can be determined to be acceptable to the general population of the state. The Congress must recognize, however, that in fulfilling an obligation to represent the interest of the state as a whole, the governor and legislature cannot always respond to the specific needs of a relatively small number of people in the situs areas.

The stake in waste facilities are different for situs area governments. We have more at risk in terms of local impacts and long-term risk and negative stigma effect. We also, quite frankly, have potentially more to gain from economic benefits of repositories or MRS activities if facilities are developed carefully and in full cooperation with local planning groups and service providers.

The current consultation system under the Nuclear Waste Policy Act does not adequately recognize the central state of affairs. Although each situs government has specific interests and problems to discuss an individual testimony, we are in agreement on some fundamental recommendations for the waste management program which we believe will benefit the program and the national effort to find a solution to the program of high level radioactive waste.

We are asking for your support in the following areas. One, the determination of adequacy of sites for waste storage or disposal must be based on thorough scientific studies and open public decisionmaking and health and safety review.

Two, situs governments must provided specifically guaranteed impact mitigation and compensation benefits. The needs of our local school districts and other services and our special contribution to the Nation must be recognized. We do not feel it appropriate to be distributed benefits as one of the many equal legislative districts or population centers as would necessarily be the case when the state carried out the distribution of benefits according to the realities of the political structure.

Three, situs governments require to be seated as a participant in the decision that will guide investigations, impact assessments and mitigation and health and safety review while deferring to the primary authority and ability of the state to protect the general welfare and public health and safety. We have much to contribute and much at risk in the areas of emergency response and impact mitigation.

The Nuclear Waste Policy Act does not adequately involve local governments who will have to deal with construction and operation activities on a daily basis; therefore, we want to be recognized as a voice in rulemaking, licensing and negotiating activities, not as a replacement for the state but as an independent assistant.

Mr. Chairman and members of the committee, we would like to draw your attention to the example of the local work force involved in review for negotiation for the monitored retrievable storage facilities. We believe a good faith attempt by Oak Ridge and Roane County to identify and resolve local concerns related to the MRS facility reflects the capability that local governments can bring to the waste management program.

We support congressional ratification of the conditions specified by the task force as the necessary mechanism to insure that they will be carried out by the Department of Energy. We believe both the program and the local communities benefit from such an effort, and we feel a similar effort is essential to respond to our needs and our people.

We have all learned through years of work and some disappointment no one siting a hazardous facility, no package of incentives can take the place of a scrupulous, fair and thorough decisionmaking and safety evaluation process. For this reason, we are not supporting abandonment of the careful procedures set out in NWPA for site selection.

We recognize that there are likely to be substantial changes made in program. We believe these changes should include greater assurance that local concerns for safety and impact mitigation are addressed in a clear role for situs governments in shaping the future design and implementation of the program.

Now, Mr. Chairman, for the Mid-Columbia Consortium of Governments, it was formed to serve as a unified focal point within the Mid-Columbia region to work with both the State of Washington and the Federal Government on matters relating to the potential site of a nuclear waste repository at Hanford. The Consortium is composed of nine cities, two counties, a library district, a hospital district and a fire district. In short, the jurisdictions I represent this morning are local governments that have been directly affected ever since the May 28, 1986 announcement.

[The prepared statements of Mr. Jones follow:]

TESTIMONY OF RON JONES, CHAIRMAN
MID-COLUMBIA CONSORTIUM OF GOVERNMENTS
TO THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

April 29, 1987

Chairman Johnston and members of the Committee on Energy and Natural Resources, I am Ron Jones, Chairman of the Board of Benton County Commissioners in the State of Washington and Chairman of the Mid-Columbia Consortium of Governments. I wish to express my personal thanks, and that of the Consortium, for the invitation to appear before you and testify this morning.

The Mid-Columbia Consortium of Governments was formed to serve as a unified focal point within the Mid-Columbia region to work with both the State of Washington and the federal government on matters relating to the potential siting of a nuclear waste repository at Hanford. The Consortium is composed of nine cities, two counties, a library district, a hospital district and a fire district. In short, the jurisdictions I represent this morning are local governments that have been directly affected ever since the May 28, 1986, announcement that Hanford, Washington, was one of three sites selected for characterization as a potential location for the nation's first high-level nuclear waste repository.

As site characterization activities progress, our region will continue to feel the social and economic impacts associated with the potential siting, and will also feel the risk impact that comes with the siting potential. Certainly, the social and economic impacts can and will be addressed through appropriate mitigation measures. The risk impacts, however, can be addressed only through scientific and technical studies that will determine the safety and environmental soundness of the Hanford site. The result of those studies, analyzing, assessing and evaluating potential risks, from a scientific perspective, is the key to addressing the number one concern of local residents--safety.

Notwithstanding the fact that the potential siting of a high-level nuclear waste repository has a substantial impact on the State of Washington as a whole, in the final analysis it is the residential and business communities immediately adjacent to the proposed site that are affected to the greatest degree. It is that direct impact, as opposed, perhaps, to the more indirect impact that exists in other parts of the state, that have brought the members of the Consortium together, as a working unit, to address those repository issues that so dramatically affect our lives. It is for that same reason that we deem it absolutely essential that Congress provide a mechanism whereby local situs governments can have a direct voice, and a recognized presence, in the decision-making process.

We have reviewed Senate Bill 839, introduced by Senator Johnston, and are most appreciative of the direct manner in which local government is referenced. For the reasons I previously mentioned we would urge that all legislation dealing with the nuclear waste issue incorporate specific reference to involvement by local government. Our reaction to Senate Bill 839, and to any other pending or potential amendments to the Nuclear Waste Policy Act of 1982, can best be summed up in the following statements of principle:

1. Ultimate site selection must be based on technical and scientific data supporting the conclusion that the chosen site is safe and environmentally sound.

2. A "political" selection, based on other than sound technical and scientific data, is unacceptable.

3. Congressional establishment of financial incentives to state and local governments hosting the selected site are desirable, however, such incentives must not serve as substitutes for technical and scientific studies to determine whether the site is safe and environmentally sound.

4. Any financial incentives that may be available following a determination that a site is scientifically safe and sound must represent compensation over and above that which is required to mitigate socioeconomic impacts associated with the siting of a high-level nuclear waste repository.

5. Any amendments to the Nuclear Waste Policy Act of 1982 must recognize and provide a vehicle for local situs governments to participate directly in the decision-making process relating to licensing, technical oversight, financial impacts, mitigation and compensation associated with siting. This is not to say that situs governments should in any way usurp the very real and important interest of the state in which a repository is to be located, but rather that situs governments can complement the state role and be of significant assistance in identifying and resolving concerns facing situs populations.

6. While cooperation indeed exists between the state and situs governments, the state, of necessity, must be concerned with a broader range of issues. By allowing a vehicle for participation in the decision-making process by situs governments, the state can be relieved of the burden of assessing specific and local situs concerns, thereby enhancing the state's ability to respond to the broader statewide issues. A recognized presence of local situs governments will also assist state government in doing away with the perception that the state is favoring one area of its population over other areas.

Locally, our paramount concern is that we have a voice in the decision-making process and a recognized presence in the governmental offices and chambers where decisions critical to our well-being are made.

Critical issues dealing with Payments Equivalent to Taxes must be addressed and resolved, including:

- a broad definition of the phrase "unit of general local government," sufficient to encompass special use districts,
- a definition of the term "site" that includes a geographic area larger than the physical location of the shaft,
- the establishment of a baseline for determining value of the project for the purpose of PETT payments,

as well as issues relating to licensing, oversight, impacts, mitigation and compensation. These, and other issues, are characteristically within the area of local government expertise. Each of these issues dramatically affects the lives of those living and working adjacent to a potential repository site. It is those voices that must be recognized and heard in the governmental process of site selection. I suggest to you that situs governments, like the Mid-Columbia Consortium, are the vehicles for representing the voice of local government. Your assistance in assuring that the local government voice is recognized and heard is most appreciated.

Thank you for allowing me the opportunity to present this information to you.

TESTIMONY OF RON JONES,
CHAIRMAN, MID-COLUMBIA CONSORTIUM OF GOVERNMENTS

on behalf of

SITUS GOVERNMENTS GROUP

before the

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

on

PARTICIPATION IN THE FEDERAL PROGRAM FOR NUCLEAR WASTE STORAGE AND DISPOSAL, and S. 839

APRIL 29, 1987

Mr. Chairman, I am Ron Jones, Chairman of the Benton County, Washington Board of County Commissioners and Chairman of the Hanford area's Mid-Columbia Consortium of Governments. I have a very brief introductory statement to make on behalf of several of the local governments appearing on the panel before you today, including the Consortium, the Waste Deposit Impact Committee from Texas; the Nye County, Nevada Board of County Commissioners; and the Roane County, Tennessee Board of County Commissioners.

The witnesses on this panel represent the people who will be the most directly impacted by development of storage and disposal facilities under the Nuclear Waste Policy Act. Our school districts, hospitals, social service agencies and other community infrastructures will absorb the primary impacts of chracterization, construction and operation activities. Our local water supplies must be protected and the benefits of life in our home towns secured and adjusted to the immediate reality of increased population and construction activity. Long after the dust has settled on state vetos and general public apprehension, the stigma of hosting the largest waste storage and disposal facilities ever developed in this country will keep the local host communities identified on the national map.

We refer to ourselves as the "situs" governments, and we are working to organize now to gain recognition for our right to participate directly in decisions that will affect us so deeply and for so many years to come. We distinguish ourselves in certain respects from our states, and from the many "affected" local governments that will also share in the risks and burdens of hosting waste management facilities.

We strongly support the central role the States have been accorded by the Nuclear Waste Policy Act in overseeing the activities of the Department of Energy, and the ultimate authority of the state to render a judgement whether these facilities can be determined to be acceptable to the general population of the State. The Congress must recognize, however, that in fulfilling an obligation to represent the interests of the state as a whole, the governor and legislature can not always respond to the specific needs of the relatively small number of people in the situs area.

The stakes in waste facility siting are different for situs governments. We have more at risk in terms of local impacts and long-term risk and negative stigma effect. We also, quite frankly, have potentially more to gain from economic benefits of repository or MRS activity if facilities are developed carefully and in full cooperation with local planning groups and service providers. The current consultation system under the NWPA does not adequately recognize this central state of affairs.

Although each situs government has specific interests and problems to discuss in individual testimony, we are in agreement on some fundamental recommendations for the waste management program, which we believe will benefit the program and the national effort to find a solution to the problem of high-level radioactive waste. We are asking for your support in the following areas:

1) The determination of adequacy of sites for waste storage or disposal must be based on thorough scientific studies and open public decision-making and health and safety review.

2) Situs governments must be provided specifically guaranteed impact mitigation and compensation benefits. The needs of our local school districts and other services, and our special contribution to the nation, must be recognized. We do not feel it appropriate to be distributed benefits as one of many equal legislative districts or population centers, as would necessarily be the case when the state carried out a distribution of benefits according to the realities of its political structure.

3) Situs governments require to be seated as a participant in the decisions that will guide investigations, impact assessment and mitigation, and health and safety review. While deferring to the primary authority and ability of the State to protect the general welfare and public health and safety, we have much to contribute, and much at risk, in the areas of emergency response and impact mitigation. The NWPA does not adequately involve local governments who will have to deal with construction and operation activities on a daily basis. Therefore, we want to be a recognized voice in rulemaking, licensing and negotiating activities; not as a replacement for the state, but as an independent assistant.

Mr. Chairman and members of the committee, we would like to draw your attention to the example of the local task force involved in review and negotiation for the Monitored Retrievable Storage Facility. We believe the good faith attempt by Oak Ridge and Roane County to identify and resolve local concerns related to the MRS facility reflects the capability that local governments can bring to the waste management program. We support congressional ratification of the conditions specified by the task force as the necessary mechanism to ensure that they will be carried out by the Department of Energy. We believe both the program and the local communities benefit from such an effort, and we feel a similar effort is essential to respond to our needs and our people.

As you have all learned through years of work and some disappointment, no one welcomes siting of hazardous facilities. No package of incentives can take the place of a scrupulously fair and thorough decision-making and safety evaluation process. For this reason, we are not supporting abandonment of the careful procedures set out in the NWPA for site selection. We recognize that there are likely to be substantial changes made in the program. We believe those changes should include greater assurance that local concerns for safety and impact mitigation are addressed and a clear role for situs governments in shaping the future design and implementation of the program.

The **Chairman**. Mr. Jones, let me stop you at that point. I have read your complete statement, and let me say with respect to your first statement I very much agree with that on getting local governments involved.

Part of the problem, I think, not all of the problem but part of the problem, has been that some of the governments who say that they want to be involved, particularly on the State level, really did not want to be involved to try to make the process work. I think that is not the case with your jurisdiction or certainly not with Oak Ridge.

We will certainly urge that, and to the extent it takes some statutory change we will do that.

Secondly, later in your statement you talk about special use districts, as to whether that is a unit of general local government. You might give us a letter on describing what those special local use districts are, and then we can take a look at whether we think that is encompassed in that jurisdiction. If it requires further definition, perhaps we can.

I do not know whether there are any problems in including all special local use districts and whether they are included, but we will certainly take a look at that, because I suspect those are included as local units of government, but I think that needs to be cleared up.

You have an excellent statement there. Thank you very much, Mr. Jones, and do not forget to send us that letter.

Mr. **Jones**. Thank you.

The **Chairman**. Next we have Mr. Joe S. Garcia, Jr., Chairman of the Board of Commissioners of Nye County, Nevada.

Mr. Garcia, glad to have you.

STATEMENT OF JOE S. GARCIA, JR., CHAIRMAN, BOARD OF COUNTY COMMISSIONERS, NYE COUNTY, NV

Mr. **Garcia**. Good morning, sir.

Mr. Chairman, I was prepared for all the Members of the Committee, but I suppose I will just address you and the staff. I am Chairman of the Board of County Commissioners, Nye County, Nevada. I greatly appreciate your invitation to testify today on two issues of significant importance to the Nye County residents, the socioeconomic aspects of a nuclear waste repository and amendment of the Nuclear Waste Policy Act of 1982.

I will address Senator Hecht now, too.

I represent one of the three counties in the United States that have been designated by the Department of Energy as having a potential site for a high-level radioactive waste repository. Nye County is located in central and southern Nevada, and it is the third largest county areawise in the contiguous United States. If you look on the back, you have an outline which will show you how big it is.

The proposed Yucca Mountain high-level radioactive waste repository site is located in southern Nye County. The nearest communities to Yucca Mountain are the Nye County towns of Amargosa Valley and Beatty. Again, I refer to the Nye County map at the back of the handout.

The town of Beatty is 15 miles from Yucca Mountain, and it has approximately 1,000 residents. The town of Amargosa Valley is 6 miles from Yucca Mountain, and it also has approximately 1,000 residents. The only source of water for the 1,000 people in the town of Amargosa Valley is ground water. Yucca Mountain is located in that town's ground water ground water basin.

On the socioeconomic aspects of a nuclear waste repository, I would first like to say something about Nye County's position on a Yucca Mountain repository. Nye County did not ask the Department of Energy to site a repository in the county. The county has taken the position that the verdict is out on whether or not a repository in the bowels of Yucca Mountain will be safe.

The Department of Energy's site characterization study should go a long way toward answering the safety questions. The county strongly supports the oversight role the State has taken relative to assessing DOE's site characterization efforts as well as Federal funding of the State program to conduct independent geotechnical studies.

The ultimate safeguard appears to be the permitting responsibility of the Nuclear Regulatory Commission. Safety must be a nonnegotiable condition to any siting decision, and I would like to repeat that. Safety must be a nonnegotiable condition to any siting decision.

Regarding the socioeconomic impacts of the repository, many feel, including Nye County, that the siting, construction and operation of a radioactive waste repository could profoundly affect the health, safety and economic well being of the residents in the situs local government. These people and future generations will have the burden and the risk of living with a repository in their backyard. The bottom line is that of all the parties involved in the repository program, none will be as affected as the host local government and its residents.

Nye County is not blind to the realities of the situation; that is, the President and the Congress will make the siting decision, not the state and not the situs local government. The County feels it is critical that it not expend its limited resources on emotional rhetoric and actions but instead be pragmatic and professional in its repository assessment and planning efforts.

Since first informed of the possibility of a high-level radioactive waste repository in Nye County, therefore, the County Board of Commissioners has tried to be involved in the Federal and State repository programs. The County Commissioners have as a primary responsibility the protection and enhancement of the health, safety and well being of the County's residents and the protection and enhancement of the County's valued natural resources.

That responsibility mandates that Nye County be a full partner with the Department of Energy, the State of Nevada and the Nevada legislature in, one, determining if a Yucca Mountain repository will be safe; two, assessing repository-related impacts, positive and negative; three, planning for the adverse and positive impacts; and four, mitigating the adverse impacts and maximizing the positive impacts.

Regarding amendment of the Nuclear Waste Policy Act of 1982, first I would like to address the role of local government in the repository program. A major finding in a report entitled "Social and Economic Aspects of Radioactive Waste Disposal: Considerations for Institutional Management" by the National Research Council states that:

> A major institutional gap exists in the framework defined in the Nuclear Waste Policy Act of 1982. There is no institutional process for relating the concerns of locally affected populations to the actions of State governors or legislatures.

The Nuclear Waste Policy Act is silent for the most part on the involvement of local governments; therefore, the government entity that will have to deal with the siting, construction and operation of the repository on a daily basis is on the outside looking in, hoping to be invited to participate in a meaningful way. I repeat, hoping to be invited to participate in a meaningful way.

There is no assurance that a state will adequately assess the concerns and needs of the host local government or allocate the necessary funds and proper benefits to a host jurisdiction. History tells us that State governments and legislatures are responsive to population centers whose interests are typically different from those of rural areas where the repository will be located.

It is Nye County's request that Congress do whatever is necessary to insure affected local governments are a full partner with the states and affected Indian tribes in addressing DOE's amorphous and complex nuclear waste repository program. The county recommends the words "and affected local governments" be added to the Nuclear Waste Policy Act after all references to states.

Now on the matter of consultation and cooperation, the affected local governments in Nevada are not a party to the Nuclear Waste Policy Act and recent State of Nevada law, to the consultation and cooperation negotiation and agreement process. This omission in Federal and State law must be corrected.

Nye County requests that Congress do whatever is necessary to require a negotiated written agreement between the affected local governments and DOE on repository-related issues that directly impact the situs governments; therefore, the states will be relieved of the burden to adequately and fairly address affected local government issues and concerns.

I must emphasize my earlier statement that there is no assurance that a state will properly assess the concerns and needs of a rural host local government, particularly in light of a state's natural inclination to be responsive to its population centers.

Finally, on the matter of financial assistance, the Nuclear Waste Policy Act provides financial assistance so, one, states and Indian tribes can participate in DOE's repository program; states and Indian tribes can mitigate repository-related adverse impacts; and three, states and situs local governments can receive payments equal to the taxes that state and local situs governments would collect if the repository-related facilities were owned by the private sector.

The Nuclear Waste Policy Act should also provide compensation or financial incentives to the host state and the situs local government or the affected Indian tribe.

Mr. Chairman, S. 839 is most definitely a step in the right direction. The Nation as a whole benefits from the use of high-level radioactive materials for nuclear power, national defense, and the provision of numerous services and products while a few of the country's citizens will have to bear the burden and risk of long-term isolation of the waste created by these users.

Nye County supports Congress developing a package of benefits to compensate the host state and host local government. This compensation should be in addition to mitigating the repository-related adverse impacts, and it should not interfere or be in place of the safeguards built into the Act that mandate a safe site be selected.

Nye County feels the package of benefits should include financial incentives and the DOE Superconducting Super Collider Project. This project will help the host state offset the negative image of a nuclear waste repository and make that state a world center of scientific research and technology.

Mr. Chairman, members of the committee, this concludes my testimony, and I wish to thank you again for giving me this opportunity.

[The prepared statement of Mr. Garcia follows:]

TESTIMONY OF JOE S. GARCIA, JR.,
CHAIRMAN, BOARD OF COUNTY COMMISSIONERS
NYE COUNTY, NEVADA

before the

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

on the

SOCIOECONOMIC ASPECTS OF A NUCLEAR WASTE REPOSITORY AND
AMENDMENT OF THE NUCLEAR WASTE POLICY ACT OF 1982

April 29, 1987

INTRODUCTION

Mr. Chairman and Members of the Committee, I am Joe Garcia, Chairman of the Board of County Commissioners in Nye County, Nevada. I greatly appreciate your invitation to testify today on two issues of significant importance to Nye County residents--the socioeconomic aspects of a nuclear waste repository and amendment of the Nuclear Waste Policy Act of 1982.

I represent one of the three counties in the United States that have been designated by the Department of Energy (DOE) as having a potential site for a high-level radioactive waste repository. Nye County is located in central and southern Nevada, and it is the third largest county, area-wise, in the contiguous United States (please see Exhibit A for location in Nevada).

The proposed Yucca Mountain High-Level Radioactive Waste Repository site is located in southern Nye County. The nearest communities to Yucca Mountain are the Nye County towns of Amargosa Valley and Beatty (see Exhibit A). The Town of Beatty is 15 miles from Yucca Mountain, and it has approximately 1,000 residents. The Town of Amargosa Valley is 6 miles from Yucca Mountain, and it also has approximately 1,000 residents. The only source of water for the 1,000 people in the Town of Amargosa Valley is ground water, and Yucca Mountain is located in the Town's ground water basin.

SOCIOECONOMIC ASPECTS OF A NUCLEAR WASTE REPOSITORY

1. Nye County's Position on a Yucca Mountain Repository

Nye County did not ask the Department of Energy to site a repository in the County. The County has taken the position that the verdict is out on whether or not a repository in the bowels of Yucca Mountain will be safe. Department of Energy site characterization studies should go a long way toward answering the safety question. The County strongly supports the oversight role the State has taken relative to assessing DOE's site characterization efforts as well as federal funding of the State program to conduct independent geotechnical studies. The ultimate safeguard appears to be the permitting responsibility of the Nuclear Regulatory Commission. Safety must be a non-negotiable condition to any siting decision.

2. Socioeconomic Impacts

The siting, construction, and operation of a radioactive waste repository could profoundly affect the health, safety, and economic well-being of the residents in the situs local government. These people, and future generations, will have the burden and the risks of living with a repository in their backyard. The bottom line is that of all of the parties involved in the repository program, none will be as affected as the host local government and its residents.

Nye County is not blind to the realities of the situation; that is, the President and the Congress will make the siting decision, not a state and the situs local government. The

County feels it is critical that it not expend its limited resources on emotional rhetoric and actions, but instead be pragmatic and professional in its repository assessment and planning efforts. Therefore, since first informed of the possibility of a high-level radioactive waste repository in Nye County, the County Board of Commissioners has tried to be involved in the federal and state repository programs. The County Commissioners have as a primary responsibility the protection and enhancement of the health, safety, and well-being of the County's residents, and the protection and enhancement of the County's valued natural resources. That responsibility mandates Nye County be a full partner with the Department of Energy, the State of Nevada, and the Nevada Legislature in (1) determining if a Yucca Mountain repository will be safe, (2) assessing repository-related impacts (positive and negative), (3) planning for the adverse and positive impacts, and (4) mitigating the adverse impacts and maximizing the positive impacts.

AMENDMENT OF THE NUCLEAR WASTE POLICY ACT OF 1982

1. Role of Local Government in the Repository Program

A major finding in a report entitled Social and Economic Aspects of Radioactive Waste Disposal: Considerations for Institutional Management by the National Research Council states that:

> A major institutional gap exists in the framework defined in the Nuclear Waste Policy Act of 1982. There is no institutional process for relating the

concerns of locally affected populations to the
actions of state governors or legislatures.

The Nuclear Waste Policy Act is silent, for the most part, on the involvement of local governments. Therefore, the government entity that will have to deal with the siting, construction, and operation of a repository on a daily basis is on the outside looking in, hoping to be invited to participate in a meaningful way. There is no assurance that a state will adequately assess the concerns and needs of the host local government or allocate the necessary funds and proper benefits to a host jurisdiction. History tells us that state governments and legislatures are responsive to population centers whose interests are typically different from those of rural areas where the repository will be located.

It is Nye County's request that Congress do whatever is necessary to ensure affected local governments are a full partner with the states and affected Indian tribes in addressing DOE's amorphous and complex nuclear waste repository program. The County recommends the words "and affected local government" be added to the Nuclear Waste Policy Act after all references to states.

2. Consultation and Cooperation

The affected local governments in Nevada are not a party, per the Nuclear Waste Policy Act and recent State of Nevada law, to the Consultation and Cooperation Negotiation and Agreement process. This omission in federal and state law must be corrected. It is understandable that DOE and states have not been able to sign a Consultation and Cooperation Agreement. They have to address numerous issues that are national, regional, and statewide in nature.

Nye County requests that Congress do whatever is necessary to require a negotiated written agreement between the affected local governments and DOE on repository-related issues that directly impact the situs governments. Therefore, the states will be relieved of the burden to adequately and fairly address affected local government issues and concerns. I must emphasize my earlier statement that there is no assurance that a state will properly assess the concerns and needs of a rural host local government, particularly in light of a state's natural inclination to be responsive to its population centers.

3. Financial Assistance

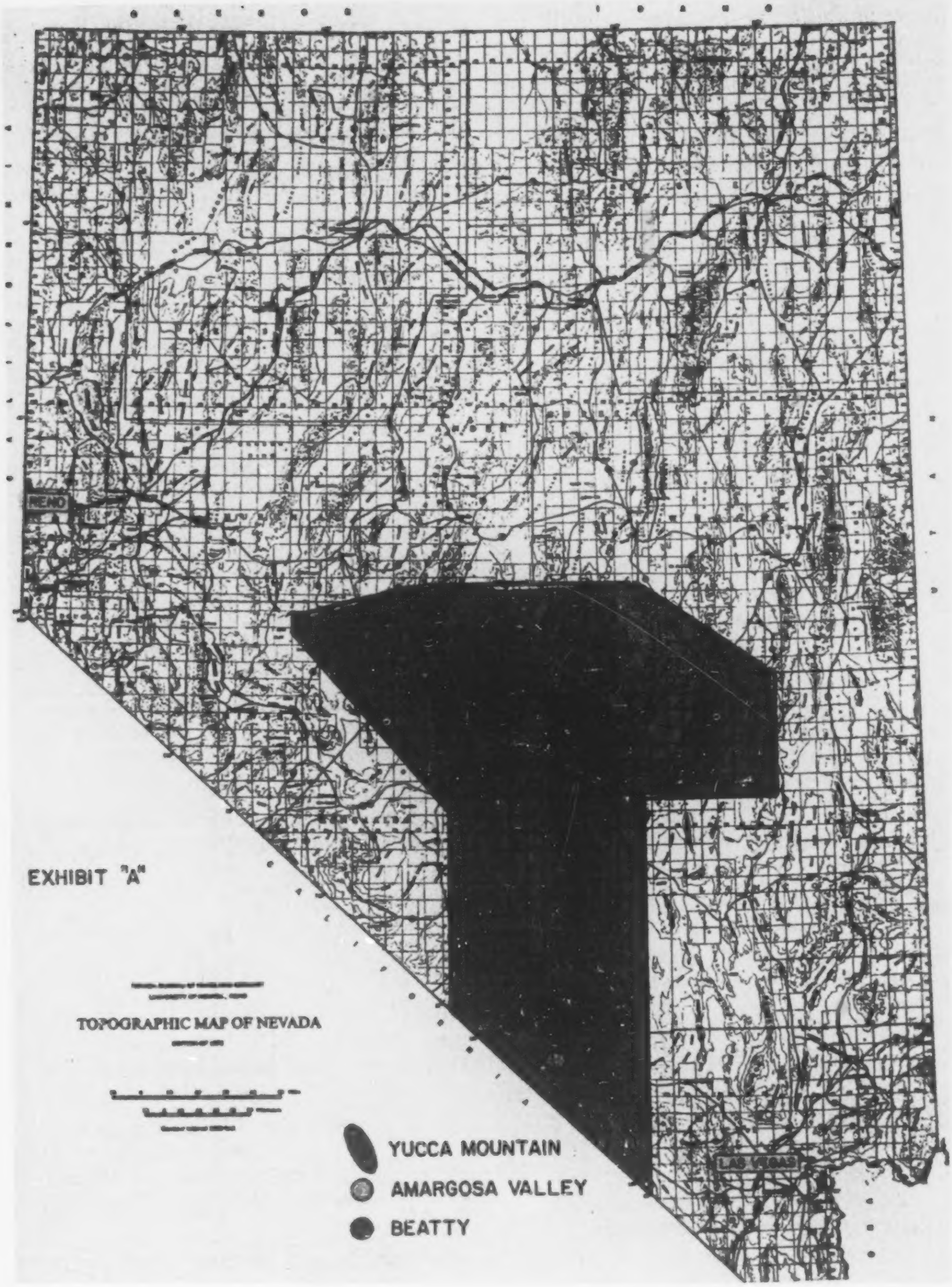
The Nuclear Waste Policy Act provides financial assistance so (1) states and Indian tribes can participate in DOE's repository program, (2) states and Indian tribes can mitigate repository-related adverse impacts, and (3) states and situs local governments can receive payments equal to the taxes a state and situs local government would collect if the repository-related facilities were owned by the private sector. The Nuclear Waste Policy Act should also provide compensation or financial incentives to the host state and the situs local government or the affected Indian tribe.

Chairman Johnston and Senator McClure, Senate Bill 839 is most definitely a step in the right direction. The nation as a whole benefits from the use of high-level radioactive materials for nuclear power, national defense, and the provision of numerous services and products, while a few of the country's citizens will have to bear the burden and risks of long-term isolation of the wastes created by these uses.

Nye County supports Congress developing a package of benefits to compensate the host state and host local government. This compensation should be in addition to mitigating the repository-related adverse impacts, and it should not interfere, or be in place of, the safeguards built into the Act that mandate a safe site be selected. Nye County feels the package of benefits should include financial incentives and the DOE Superconducting Super Collider Project. This Project will help the host state offset the negative image of a nuclear waste repository and make that state a world center of scientific research and technology.

CONCLUSION

Mr. Chairman, Members of the Committee, this concludes my testimony, and I want to thank you once again for the opportunity to speak before you today.


RENO
LAS VEGAS
EXHIBIT "A"
TOPOGRAPHIC MAP OF NEVADA
YUCCA MOUNTAIN
AMARGOSA VALLEY
BEATTY

The **Chairman**. Thank you very much, Mr. Garcia, for an excellent statement.

Senator **Hecht**. Excuse me. I add to that. I am going to have to leave, but I did want to hear you, and I thank you for making that long trek to Washington and an excellent statement.

Mr. **Garcia**. Thank you, Senator.

The **Chairman**. Finally we have Troy Don Moore, Commissioner of Deaf Smith County, Texas.

Mr. Moore.

STATEMENT OF TROY DON MOORE, CHAIRMAN, WASTE DEPOSIT IMPACT COMMITTEE, DEAF SMITH COUNTY, TX

Mr. **Moore**. Thank you, Mr. Johnston. In deference to your request that we shorten this so you can address on a question and answer basis I will abbreviate my statement, but I would like to emphasize that that does not diminish the import of this statement into the record. I appreciate that.

I am a Deaf Smith County Commissioner. I am also a chairman of a committee formed called the Waste Deposit Impact Committee which is a committee formed under an interlocal governmental agreement provided by State statute and formed between the city, the county, two independent school districts, Walcott and Hereford, and the general hospital district.

So we come to you with force of the local government, not just the county government. I therefore reemphasize the import of all of our testimony in the written form.

I will emphasize, too, the import of the written document that you have setting forth our objectives and whatnot, in that we are a very agriculturally productive area of the Nation and which I think some in the Nation do not recognize. When they think of the panhandle of Texas, they conjure up a windblown, windswept, carcass of a cow lying on the side of the road concept. That concept is certainly not correct.

The **Chairman**. I see here you are the top county in Texas.

Mr. **Moore**. The top agricultural producing county in Texas in both crops and livestock; that is correct, sir. So we feel that we have a very valuable commodity.

The **Chairman**. Wheat is your principal crop, is it not?

Mr. **Moore**. Wheat, corn, mylow and sugar beets are our principal crops. We do have also a large vegetable production in the county, and we are right in the middle of the largest cattle feeding industry in the world. Sometimes it is odiferous, and you can tell that you are there in Hereford.

Again, I will abbreviate this and bring it to the summary of our testimony, reemphasizing my desire that you do consider all of our testimony very succinctly.

The Waste Deposit Impact Committee was established to address on a local level the impacts of the repository program and oversee its implementation, both socioeconomically and technically. We have had a role of active neutrality, but that should not be interpreted as acceptance but a pragmatic approach to insuring that we are influential in protecting our community, the most agriculturally productive county in Texas.

For this reason, in reaction to S. 839, the committee places great emphasis on technical and scientific merit to guide characterization activities in the siting of a nuclear waste storage facility. The bill appropriately addresses compensation; however, State or local authorities should not be diminished.

As a final point, I would like to emphasize that of all the affected interests and parties, none will be as directly impacted as the local governments and citizens of the candidate host sites. Assistance to the community is needed immediately, and the situs governments need an equal place at the table along with the state in negotiations and interactions over site characterization and repository development.

I am honored to have had the opportunity to address this distinguished Committee. I wish you success in your deliberations.

[The prepared statement of Mr. Moore follows:]

Testimony of

TROY DON MOORE, CHAIRMAN
WASTE DEPOSIT IMPACT COMMITTEE
DEAF SMITH COUNTY

Before the

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
U. S. CONGRESS

SENATOR J. BENNETT JOHNSTON, CHAIRMAN

April 29, 1987

CHAIRMAN JOHNSTON AND DISTINGUISHED SENATORS:

GOOD MORNING. THANK YOU FOR THE OPPORTUNITY TO ADDRESS THE COMMITTEE ON MATTERS OF THE UTMOST SIGNIFICANCE TO DEAF SMITH COUNTY AND ITS NEIGHBORS IN THE TEXAS PANHANDLE.

MY BRIEF REMARKS WILL DESCRIBE THE WASTE DEPOSIT IMPACT COMMITTEE; INTRODUCE YOU TO THE DEAF SMITH COUNTY I REPRESENT -- ONE OF THE MOST PRODUCTIVE AGRICULTURAL COMMUNITIES IN THE WORLD; CONVEY OUR POSITION ON S.839 AND DIRECT YOUR ATTENTION TO THE NEEDS OF THE SITUS AND AFFECTED LOCAL GOVERNMENTS IN AND AROUND DEAF SMITH COUNTY RELATIVE TO ANY FUTURE IMPLEMENTATION OF THE NUCLEAR WASTE POLICY ACT.

MY NAME IS TROY DON MOORE. I AM CHAIRMAN OF THE WASTE DEPOSIT IMPACT COMMITTEE IN DEAF SMITH COUNTY. WE ARE A FORMALLY ESTABLISHED BOARD, THROUGH USE OF AN INTERLOCAL AGREEMENT ALLOWED FOR BY TEXAS STATUTE. THE COMMITTEE CONSISTS OF TWO "UNITS OF GENERAL LOCAL GOVERNMENT" -- THE COUNTY AND THE CITY OF HEREFORD -- AND THREE SPECIAL DISTRICTS -- THE HEREFORD AND WALCOTT INDEPENDENT SCHOOL DISTRICTS AND THE GENERAL HOSPITAL DISTRICT. WE EXPECT TO ADD THE HIGH PLAINS UNDERGROUND WATER CONSERVATION DISTRICT AS A MEMBER IN THE NEAR FUTURE. ALL MEMBERS ARE GOVERNMENTAL BODIES ESTABLISHED UNDER STATE LAW, WITH BOARDS AND COMMISSIONS ELECTED BY POPULAR VOTE OF THE GENERAL PUBLIC.

THE WDIC WAS CREATED BY THE VARIOUS GOVERNMENTAL ENTITIES TO COORDINATE THE STUDY OF THE POTENTIAL IMPACTS OF THE REPOSITORY PROGRAM ON THE COMMUNITY -- PUBLIC HEALTH AND SAFETY, ENVIRONMENTAL, SOCIAL, FISCAL, ECONOMIC AND OTHERWISE -- AND IDENTIFY APPROPRIATE IMPACT MITIGATIONS -- WHERE ANY CAN BE DEFINED. IN ADDITION, WE

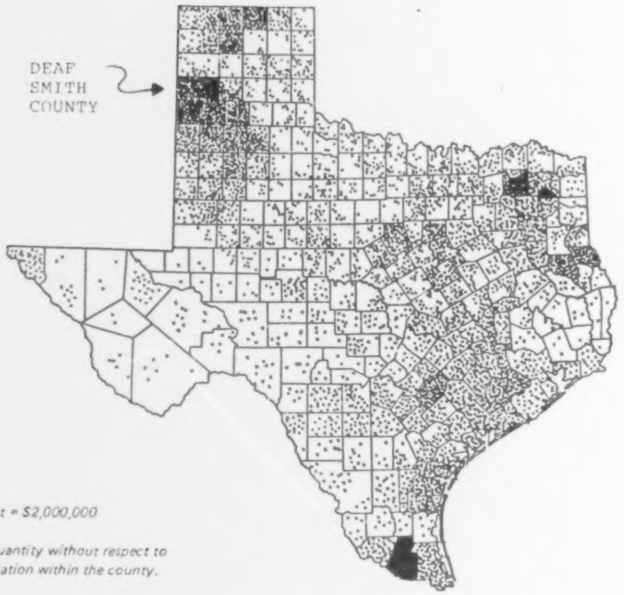
HAVE THE RESPONSIBILITY OF LOCAL OVERSIGHT AND MONITORING OF THE TECHNICAL WORK PERFORMED WITHIN THE COUNTY SHOULD SITE CHARACTERIZATION AND REPOSITORY DEVELOPMENT PROCEED.

THE COMMITTEE'S OPERATING BUDGET IS FINANCED BY THE NUCLEAR WASTE FUND THROUGH A GRANT CONTRACT WITH THE STATE OF TEXAS WITH WHOM WE HAVE A VERY SOLID WORKING RELATIONSHIP. WE RECENTLY CONTRACTED WITH AN EXECUTIVE DIRECTOR WHO CARRIES OUT THE COMMITTEE'S POLICY DIRECTION.

THE COMMITTEE HAS TAKEN A POSITION OF ACTIVE NEUTRALITY REGARDING SITE CHARACTERIZATION FOR PRAGMATIC REASONS -- IF IT PROCEEDS, WE INTEND TO INFLUENCE THE PROJECT DIRECTION IN THE COUNTY AND SECURE THE NEEDED PROTECTIONS AND MITIGATIONS FOR THE CITIZENRY. THIS POSITION SHOULD NOT BE MISINTERPRETED AS OPENED ARMED ACCEPTANCE. THE POTENTIAL FOR BECOMING THE LOCATION OF A PERMANENT REPOSITORY FOR THE NATION'S NUCLEAR WASTE IS AN UNINVITED AND UNDESIRABLE BURDEN THAT STARKLY CONTRASTS WITH THE AGRICULTURAL ECONOMY AND THE RURAL, AGRARIAN NATURE OF THE COMMUNITY.

I WOULD LIKE TO HIGHLIGHT THIS POINT IF I MAY. THE IMAGE CONJURED UP IN THE MINDS OF MANY IN THE COUNTRY WHEN DISCUSSING THE TEXAS PANHANDLE IS ONE OF OPEN, WIND SWEPT, FLAT PRAIRIE LAND, WITH A FEW WOODEN WINDMILLS ON THE HORIZON AND TUMBLEWEEDS ROLLING ACROSS THE OPEN ROAD. WHERE LAND FEATURES PROHIBIT CULTIVATION THIS IMAGING MAY BE APPROPRIATE. BUT I SUSPECT THAT FEW IN THE COUNTRY WOULD KNOW THE PANHANDLE AS ONE OF THE MOST PRODUCTIVE AGRICULTURAL ECONOMIES IN THE WORLD. IN 1985, TEXAS WAS THE SECOND MOST PRODUCTIVE STATE IN THE COUNTRY WHEN MEASURED BY CASH RECEIPTS FROM CROPS AND LIVESTOCK. OF THE $9.3 BILLION

CASH RECEIPTS
FROM CROPS AND LIVESTOCK
1985



1 dot = $2,000,000

Dots indicate quantity without respect to geographic location within the county.

TEXAS TEN LEADING COUNTIES

Rank	County	Amount
		Thousand dollars
1	Deaf Smith	317,737
2	Hidalgo	255,909
3	Parmer	191,309
4	Gonzales	173,679
5	Castro	157,421
6	Hansford	146,534
7	Hopkins	133,777
8	Wharton	130,475
9	Moore	125,738
10	Hale	125,073

TEN LEADING STATES

Rank	State	Amount
		Million dollars
1	California	14,344
2	TEXAS	9,263
3	Iowa	9,256
4	Illinois	7,745
5	Nebraska	7,206
6	Minnesota	6,505
7	Kansas	5,739
8	Wisconsin	5,111
9	Florida	4,739
10	Indiana	4,379

GENERATED BY THE STATE, $2.7 BILLION CAME FROM THE HIGH PLAINS REGION OF THE PANHANDLE. DEAF SMITH COUNTY WAS THE NUMBER ONE PRODUCER FOR THE STATE. DEAF SMITH COUNTY IS NOT THE BARREN WASTELAND OF THE EARLY COWBOY MOVIES, BUT A PREMIER EXAMPLE OF THE BEST OF AGRICULTURE TODAY -- THE FINEST TECHNOLOGY BEING USED ON FARMS, MEASURED IN SQUARE MILES INSTEAD OF ACRES, THAT ARE STILL PREDOMINANTLY FAMILY OWNED AND OPERATED.

THE SUCCESS OF THESE FAMILY OPERATIONS IS FUNDAMENTALLY TIED TO THE SUBSURFACE WEALTH OF FRESH WATER FOR IRRIGATION FROM THE OGALLALLA AND SANTA ROSA AQUIFERS. CHARACTERIZATION OF THIS SITE WILL REQUIRE THE CONSTRUCTION OF TWO (2) TWELVE FOOT SHAFTS THROUGH THE ONLY SURCES OF WATER FOR IRRIGATION AND DOMESTIC USE IN A COUNTY OF LOW RAINFALL. MANY, THEREFORE, PERCEIVE THE CONSEQUENCES OF ERROR DURING CHARACTERIZATION OR REPOSITORY OPERATION A SIGNIFICANT RISK TO THEIR WAY OF LIFE AND LIVELIHOOD.

THE CITIZENRY IS ALSO CONCERNED ABOUT DAMAGE TO INTANGIBLES -- THOSE THINGS THAT YOU AND I MIGHT NORMALLY ONLY REFERENCE DURING OUR CAMPAIGNS -- BUT ARE REAL, VERY REAL TO THE RESIDENTS OF THIS AREA: COMMITMENT TO FAMILY, COMMUNITY SPIRIT, PROTECTION OF THE ENVIRONMENT, AFFINITY TO THE SOIL AND WATER. THESE INTANGIBLES ARE NOW BEING THREATENED BY THE POTENTIAL OF A REPOSITORY BEING THRUST ON THE COMMUNITY; AIDED AND ABETTED BY FEAR OF THE UNKNOWN, LIMITED AND EVER CHANGING INFORMATION ON EXPECTED SOCIO-ECONOMIC IMPACTS AND A VISCERALLY FELT UNCERTAINTY OF DOE'S ABILITY TO DO THE WORK RIGHT, SAFELY AND WITH CONCERN FOR THE LAND, WATER AND THE COMMUNITY.

SENATE BILL 839 IS A MAJOR STEP FORWARD, IN THAT SENATORS JOHNSTON AND MCCLURE HAVE RECOGNIZED THE TREMENDOUS BURDEN PLACED ON THE STATE AND LOCAL GOVERNMENTS BY THE REPOSITORY PROGRAM AND ARE SUGGESTING SUBSTANTIAL SUMS OF MONEY TO COMPENSATE FOR THE BENEFICIAL SERVICE THE SITE WOULD PROVIDE THE REST OF THE COUNTRY. HOWEVER, TECHNICAL AND SCIENTIFIC MERIT MUST STILL BE THE PREEMINENT CONSIDERATION TO THE SITING PROCESS. ONCE THIS CRITERION IS SATISFIED, IT IS VERY APPROPRIATE FOR THE SITUS STATE AND LOCAL AREA TO NOT ONLY BE COMPENSATED FOR THEIR ONEROUS ROLE, BUT RICHLY SO.

THE BILL ALSO RAISES A SECOND CONCERN RELATIVE TO STATE INVOLVEMENT AND AUTHORITY WITHIN THE NUCLEAR WASTE PROGRAM IMPLEMENTATION. THE BASIC THRUST OF THE NUCLEAR WASTE POLICY ACT TOWARD INVITING STATE AND INDIAN TRIBE PARTICIPATION IN THE PROGRAM WAS CORRECT, THE COURSE SHOULD BE MAINTAINED AND THE OPPORTUNITY EXTENDED TO SITUS LOCAL GOVERNMENTS.

UNFORTUNATELY, OUR EXPERIENCE WITH THE IMPLEMENTATION OF THE ACT BY DOE AND THE KNOWN PROBLEMS AT MOST DOE OPERATED FACILITIES, CAUSES US TO REMAIN VERY SKEPTICAL. IN THE ABSENCE OF ACCOUNTABILITY FOR THEIR ACTIONS, COMMUNITY WELFARE AND ENVIRONMENTAL PROTECTION APPEAR VULNERABLE TO BECOMING SUBORDINATE TO PROGRAM PRIORITIES. THE LOCAL GOVERNMENTS, IN PARTICULAR, MUST HAVE THE ABILITY TO EXERCISE OVERSIGHT IN A FASHION UNLIKELY TO HAVE BEEN EXPERIENCED BY THE DEPARTMENT IN THE PAST. IF SUCH OVERSIGHT IS CALLED FOR BY A TECHNOLOGY ORIENTED AND DOE KNOWLEDGEABLE COMMUNITY LIKE OAK RIDGE/ROANE COUNTY, TENNESSEE; THEN WE IN TEXAS MUST TAKE PARTICULAR NOTE AND REQUIRE THE SAME CAPABILITY.

AS THE SENATORS ARE LIKELY AWARE, THE PROVISIONS OF THE ACT THAT WERE INTENDED TO ADDRESS NEGATIVE IMPACTS OF THE REPOSITORY PROGRAM ON LOCAL COMMUNITIES ARE BEING NARROWLY INTERPRETED BY THE DEPARTMENT. THE LAW LIMITS PAYMENTS EQUAL TO TAXES TO "UNIT OF GENERAL LOCAL GOVERNMENT," EXCLUDING SUCH SPECIAL DISTRICTS AS SCHOOLS AND HOSPITALS. IT LIMITS IMPACT MITIGATION ASSISTANCE TO THE REPOSITORY DEVELOPMENT AND DOES NOT INCLUDE SITE CHARACTERIZATION, A MAJOR UNDERTAKING IN AND OF ITSELF.

DEAF SMITH COUNTY AND ITS VARIOUS TAXING JURISDICTIONS ARE BEING IMMEDIATELY CONFRONTED WITH THE POTENTIAL FOR IMPACTS TO OUR SERVICE DELIVERY SYSTEMS. IN FEBRUARY, THE DOE ANNOUNCED THE MOVEMENT OF ITS SALT REPOSITORY PROGRAM OFFICE AND THOSE OF BATTELLE, ITS PRIME CONTRACTOR, TO HEREFORD, AND ITS FIELD SERVICE OPERATIONS TO AMARILLO. THE PLANNED WORK FORCE SIZE AT PEAK LEVELS FOR SITE CHARACTERIZATION IS NOW ESTIMATED AT 1375, NEARLY THREE TIMES THE NUMBER DISCUSSED IN THE ENVIRONMENTAL ASSESSMENT. AS THE LAW IS CURRENTLY BEING INTERPRETED, THE COMMUNITIES IN THE AREA MUST ABSORB THE IMPACT OF THIS IN MIGRATION, WITHOUT BENEFIT OF PLANNING TIME OR FINANCIAL ASSISTANCE.

FINALLY, THE DEAF SMITH COUNTY SITE IS THE ONLY ONE OF THE THREE THAT REQUIRES LAND ACQUISITION FROM PRIVATE OWNERS. AS SUCH, SPECIAL CONSIDERATION SHOULD BE GIVEN TO THIS ELEMENT OF THE PROJECT.

A MORE DETAILED PRESENTATION OF THE WDIC'S PRINCIPLES AND POLICY POSITIONS IS PROVIDED FOR YOUR CONSIDERATION IN THE EXHIBIT ATTACHED TO THE WRITTEN TESTIMONY.

IN SUMMARY, THE WASTE DEPOSIT IMPACT COMMITTEE WAS ESTABLISHED TO ADDRESS THE IMPACTS OF THE REPOSITORY PROGRAM AND OVERSEE ITS IMPLEMENTATION, BOTH SOCIOECONOMICALLY AND TECHNICALLY. ITS NEUTRALITY SHOULD NOT BE INTERPRETED AS ACCEPTANCE, BUT A PRAGMATIC APPROACH TO ENSURING THAT WE ARE INFLUENTIAL IN PROTECTING THE COMMUNITY, THE MOST AGRICULTURALLY PRODUCTIVE COUNTY IN TEXAS. FOR THIS REASON, AND IN REACTION TO SENATE BILL 839, THE COMMITTEE PLACES GREAT EMPHASIS ON TECHNICAL AND SCIENTIFIC MERIT TO GUIDE CHARACTERIZATION ACTIVITIES AND THE SITING OF A NUCLEAR WASTE STORAGE FACILITY. THE BILL APPROPRIATELY ADDRESSES COMPENSATION; HOWEVER, STATE OR LOCAL AUTHORITY SHOULD NOT BE DIMINISHED.

AS A FINAL POINT, I WOULD LIKE TO EMPAHSIZE THAT OF ALL THE AFFECTED INTERESTS AND PARTIES, NONE WILL BE AS DIRECTLY IMPACTED AS THE LOCAL GOVERNMENTS AND CITIZENS OF THE CANDIDATE HOST SITES. ASSISTANCE TO THE COMMUNITY IS NEEDED IMMEDIATELY AND THE SITUS GOVERNMENTS NEED AN EQUAL PLACE AT THE TABLE ALONG WITH THE STATE IN NEGOTIATIONS AND INTERACTIONS OVER SITE CHARACTERIZATION AND REPOSITORY DEVELOPMENT.

I AM HONORED TO HAVE HAD THE OPPORTUNITY TO ADDRESS THIS DISTINGUISHED COMMITTEE. I WISH YOU SUCCESS IN YOUR DELIBERATION.

EXHIBIT

STATEMENT OF WORKING PRINCIPLES AND POLICY POSITIONS

WASTE DEPOSIT IMPACT COMMITTEE

DEAF SMITH COUNTY, TEXAS

TESTIMONY BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
U. S. CONGRESS
APRIL 29, 1987

STATEMENT OF WORKING PRINCIPLES AND POLICY POSITIONS

WASTE DEPOSIT IMPACT COMMITTEE

DEAF SMITH COUNTY, TEXAS

PRINCIPLES

1. The Nuclear Waste Policy Act of 1982 (NWPA) provided the statutory direction under which DOE has initiated a program to permanently store high level nuclear waste and defined its interactions with states and Indian Tribes.
2. A role for local governments and the communities they serve is essentially absent from the NWPA.
3. Of all the interests and parties involved in the implementation of the NWPA, none will be as affected as the local governments and citizens of the potential host sites.
4. Local governments are established to serve their citizens and protect their interests. As is done for the states and Indian tribes, a role must be defined for local governments in the further implementation of the NWPA.
5. Planning for change is a fundamental responsibility for local governments. Sufficient notice and adequate information are critical for these entities to ensure that change occurs in an orderly manner with the minimum necessary social and economic impact.
6. The potential for becoming the location of a permanent repository for the nation's nuclear waste is an uninvited and undesirable burden that starkly contrasts with the agricultural economy and the rural, agrarian nature of the community.
7. The protection of the public's health and safety is the community's highest priority consideration, followed by the protection of the environment. Technical excellence in implementing the provisions of the NWPA is, therefore, of the utmost importance.
8. Substantial effort and resources should be made to ensure that negative impacts of the repository program are addressed and individuals, businesses and communities made whole for any losses incurred.
9. Nothing within this policy framework is written to diminish, explicitly or implicitly, the State of Texas's or any citizen group's activities and positions relative to this program.

10. Regretfully, the DOE's performance in implementing the NWPA has resulted in a significant erosion of public trust. Loss of confidence in its reliability is of such magnitude that it is essential that Congressional intent be as explicitly stated as possible through appropriate instruments of law.

POLICY POSITIONS

1. Units of general local government and special taxing districts providing traditional services[1] should be explicitly identified as eligible for financial assistance grants.

2. Financial assistance for impact mitigation (FAIM) should be made available to local governments/special districts and any citizen or business incurring damage or injury for site characterization and repository construction activities.

3. A FAIM Plan to address the needs of local affected jurisdictions should be designed for site characterization and repository activities.

4. Eligibility for Payments Equal to Taxes (PETT) should be extended to special districts providing traditional services.

    4.1 The site characterization activities should generate PETT on the full value of the completed facilities upon authorization.

    4.2 Full value should include intangible investments of design, engineering and analytical work necessary for facility construction.

    4.3 The site, for PETT purposes, should be the full nine square miles as defined by the Environmental Assessment for the Deaf Smith County site.

5. A negotiated written agreement should be achieved between DOE and the situs local government or consortium of affected governments, that specifies procedures for conferring, consulting, advising and overseeing program implementation relative to issues of public health and safety, environmental and socioeconomic impacts of both site characterization and repository development. Problems that develop throughout the project should be resolved through good faith negotiations or through mediation or arbitration should impasse be reached.

6. Site characterization and repository oversight is a local situs government, as well as State, responsibility. Duplication of effort between the two should be kept at an absolute

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[1] For brevity this key phrase will be reduced to "local governments/special districts." Examples of traditional services are education, public safety and public health.

minimum where feasible. This should be accomplished through consultation and, if necessary, negotiation with the State.

7. Procedures should be developed whereby the Committee, or its appointed body, could bring about a suspension of characterization or repository operations if certain procedures, jointly pre-established with DOE, are not followed in order to protect the public health and safety; and to protect the environment, particularly the region's aquifer.

8. The Deaf Smith County, Texas site is the only one requiring land acquisition from private owners. As such, special consideration should be given to this element of the project.

   8.1 Any purchases or leases negotiated should begin with a baseline value, substantially greater than market, that recognizes the rarity and uniqueness of the property and its salt mineral deposit as determined by the DOE selection process.

   8.2 Current owners or their heirs should be given a first right to repurchase the fully reclaimed land at market value should the repository be located elsewhere.

   8.3 Any other potential federal use of the characterization site should be prohibited.

   8.4 Farm owners and operators currently using land to be leased should be made whole for lost or foregone income or property damage incurred by characterization.

9. Property owners in the area of the site should be made whole for loss of land value due to proximity to a potential nuclear waste storage facility.

10. The Nuclear Regulatory Commission's licensing process for the establishment of a permanent Nuclear Waste Repository includes receiving public comment on the proposed facility. Documentation is estimated to reach levels in excess of a billion pages. Meaningful input from citizen groups during licensing procedures will require resources for them to monitor the program over time. Assistance for the effort should be made available through the nuclear waste storage program.

The **Chairman**. Thank you very much, Mr. Moore.

I want to thank each member of this panel for what I consider to be very constructive testimony. Also, I would like to tell you that it is very much our intent in S. 839 to involve units of local government actively in the process. Let me explain one thing about the bill that has not been emphasized today which I think is important.

We provide, first of all, that they shall give information to the states, full information. Then we create a review panel which will have seven members. Two members will be appointed by the Governor or the Indian tribe and two by units of local Government. So that will be a majority of that review panel.

The other members will be appointed, one member to represent other public interests to be selected by the Secretary, one to represent persons making payments into the Nuclear Waste Fund, which would be principally the utilities, and the chairman will be selected by the Secretary in consultation with the Governor or the local tribe.

Now, the expenses of the review panel will be paid by the Secretary from the Nuclear Waste Fund, and their duties are to advise the Secretary on matters relating to the proposed repository or monitored retrievable storage facility, including issues relating to design, construction, operation and decommissioning; to evaluate performance as it considers appropriate; to recommend corrective actions; to assist in the presentation of State or affected Indian or local perspectives to the Secretary; and to participate in the planning for and review of preoperational data on environmental demographic and socioeconomic conditions of the site and local community.

The Secretary shall make available promptly any information in the Secretary's possession requested by the panel. So this may not be going to file a lawsuit and going to court, but I submit to you it is a more effective way to involve units of local government than to give you access to another lawsuit. Once you get to the lawsuit stage, all you do is talk in the courtroom before a judge in legal jargon, and you usually get a lot of delay and some heavy legal expenses, but in terms of getting something done, you really do not.

Our intent here is to have this review panel, a majority of which is State and local dominated, to really be able to get something done in the design and operation, environmental matters and all of these things. I think it would be a much more effective way to do it than even under the Nuclear Waste Policy Act. That is certainly our intention.

Now, if there is way we can tighten that up and insure greater local participation, we will do so. I am very pleased that no one is bashing S. 839 because, as you know, on the local level probably better than on the State level, the rewards are very great.

It is not intended to be a substitute for safety. To the contrary, we want to enhance safety to the greatest extent possible. I can tell you I have no doubt at all that the scientists can build both an MRS and a repository in an absolutely safe, not just a relatively safe, manner. They have done in Sweden. They have done it in France. The local people have totally accepted it in those areas, and I am certain we can do it here.

Mr. King, as you know, before the passage of S. 839, Oak Ridge negotiated with DOE, imperfect though it was, in a way that if it did not constitute an invitation for the MRS, I certainly understood it as that. Perhaps it was not a formal invitation, but they sure looked anxious for it to me. The reason was, in my view, that people in Oak Ridge had a lot of scientific background. They were not ruled by superstition and ignorance of what it was they were dealing with. They approached it as scientists dealing with those concerns. They were satisfied that DOE would properly deal with those concerns.

I would hope that with this benefits package on top of that scientific assurance that it would be that much more attractive to them.

On a State level, it is a different problem.

Let me ask you, do you think the one-third share for units of local government is a fair distribution of the $50 million a year for the MRS or the $100 million a year for the repository? Mr. Jones, do you think that is fair?

Mr. JONES. I think it is fair, sir, but I think that you need to identify what the local unit of government is. I mean, if say, for instance, in the Benton County area, we are close to Oregon, and if we had to distribute that and you wound up with much less that what you are offering, then we would have a question.

So I think you really need to identify what the local unit is.

The CHAIRMAN. Well, we thought about trying to do that, but we left it to the negotiation process. The bill provides that the time the State or Indian tribe negotiates with the DOE, they shall have a plan for distribution of that money. We thought that was better because we could not provide for the infinite number of variables.

Sometimes it will be right on the county line. In Washington, as you know, the river flows by, and the people in Oregon feel impacted. We thought it was just much better to leave it to negotiation with the DOE at the time the deal is confected, if in fact it is confected.

I am sure in Nevada that more than just Nye County feels impacted. I do not know what the budget is for Nye County, but I would suspect with $33 million a year, there would be enough to go around.

Mr. GARCIA. At the present time, sir, the legislature is working on this grant equal to taxes and are looking at redistributing the allotment that has been proposed for the situs county. They feel that we cannot use all that money, I think.

The CHAIRMAN. They feel that you cannot use it?

Mr. GARCIA. Yes; they are saying that is too much money for you, so we are going to give you 10 percent, and we will give the rest of the state the other part of the share.

Just to make a statement on what you said regarding how to make your proposal a little stronger, about the two representatives that would be from the local government, I would rather you put on there the situs county appointed by the Board of County Commissioners of the situs county. I think it would make it a little stronger, for one.

The CHAIRMAN. You see, the one thing that review panel would not do would be to divide the money. Here is what the provision states.

> Any state receiving payments under this section shall transfer not less than one-third of such payment to units of general local government affected by the repository or MRS facility. A plan for this transfer shall be included in the incentive agreement under section 401(a) covering such payments.

So that your rights to receive that money, whatever is worked out with the state, will be fixed at the time the agreement is described and will not be subject later on to a variation by the state or by this review commission.

Mr. GARCIA. I would feel that it would need a little stronger language to implicate that. There are several things with which we are dealing at the present time that Congress has mandated to the states.

At the present time, we have the oil problem. Since 1974, we have not received a penny giving priority to the impacted county. They have given it to the school fund. In that instance the schools are getting it per capita. We do get a small portion of that money that comes in, and that is one point that I can relate to right now.

In our state, there is also another county that got a powerplant placed in their area, and the legislature, in their infinite wisdom, 2 years ago decided that they cannot use all that money; therefore, it was distributed throughout the state.

With this thing on the grants equal to taxes, the same thing. It is leading in the same direction, where they are saying, hey, we can do it this way better with this kind of formula and such. I believe they are not treating the DOE like they do everybody else. They are trying to make a new rule, and I do not believe that is fair.

We have been speaking to it and holding our position of what you are stating right now as to the situs county is supposed to get a certain amount along with the state, and that is not what they are talking to.

The transportation of the waste is one of the predominant things that is coming up. I believe that is also addressed in the Act in a separate location to this grants equal to taxes.

The CHAIRMAN. Well, if you have some language on that, we would be happy to entertain that. Any member of the panel or, indeed, anyone in the audience who has suggestions on that, we would be happy to entertain that.

Mr. Moore, did you have a suggestion?

Mr. MOORE. Yes, I would like to comment on that, Mr. Johnston, with regard to the money and your comments.

I hope that you have not misconstrued our testimony, at least for the Deaf Smith County situs, for the reason I am not sure we are in total agreement that money would heal all ills in Deaf Smith County.

I will commend your proposed bill in having a review panel set forth in it, because it does recognize the local government, of which I am not sure the Nuclear Waste Policy Act as being interpreted by DOE is doing. So I commend that, and I like that aspect of it, as do our communities.

However, we still have the perception, and not just perception but the factual circumstance, that DOE has not been proven reliable as far as our entities are concerned. To accept the statement that you make that it is technically sound, I am not sure that we are able to agree with that and say we will accept $33 million and go on down the road.

As you pointed out in the testimony, we have a great deal of production coming out of our county which $33 million simply might not address.

We also in the state and within our county have a very good working relationship. Mr. Frishman has testified earlier this morning. You have all of that before you. We would agree with his position regarding S. 839 concerning the acceptance of money not addressing all the ills.

The CHAIRMAN. Let me interrupt you there at that point and tell you that I understand that.

What I would urge all of you to do, however, is to—even though you may think there is no way this could be made palatable to you, the place to oppose nuclear waste is not in S. 839.

I think if I were any one of you, I would say please pass S. 839 because if it passes, first of all, we may change our mind later. Why might we change our mind? Because you may figure out, you may look at the other sites and say they are going to pick my state. I know it. I have been reading the scientific journals. They are going to pick my state. If I am going to get it anyway, I might as well get the $100 million a year. I do not believe it is going to be that possible to come back, if you follow the Act, and get the money anyway.

One of the reasons that I think it is practical to get this kind of money is because we can go from a characterization of three sites at $1 billion a site down to one site. That $2 billion, if somebody does volunteer, gives you enough money to pay the benefits. If we just go through the act and some state is selected, I do not believe you are going to find those kind of benefits.

In the first place, science does show that it is not an evil, that it is not harmful to a state. I can tell you if it is, you have nuclear waste right now that is stored in over 100 sites around the country. You have strategic bombs, as I say, with sensitive high explosion on them that can blow up at any SAC base around the country or any other kind of base. You have the nuclear site in Nevada.

You have liquid nuclear waste stored in Washington right now that is stored in a much more hazardous way than it would be in this facility. I say stored in a more hazardous way. It used to be stored in a more hazardous way, and we really need to provide for that waste stored in Washington. We need to vitrify it.

There is nuclear waste in Idaho. I do not mean to say that that is going to make you want to have it, but if you have to go through all the procedures of the Nuclear Waste Policy Act and you finally get selected, and then you come in and say, well, we have changed our minds, now we want the $100 million a year, the $100 million will not be there. When you try to get $100 million a year out of this budget, out of OMB, when we have these kind of deficits, you cannot get it.

Now, I think we can get it in S. 839. I think we have a good chance of passing S. 839 if it is not too strongly opposed by those states and local communities which it is meant to benefit. I think we can pass it because we can save $2 billion on the other end and provide the funds. If we have to spend the $2 billion, however, it is gone.

So I am not asking anyone here to sacrifice safety for money. That is the last thing I have in mind. What I am saying is if it can be done safely and you are satisfied with that, why not put S. 839 into law.

Then you would have a year's time within which to talk to DOE and say, all right, we just want to see what you can do. Lay out for us what you might do. Then you look at that, and then you consult with your scientists also on the question of whether you think you are going to be selected anyway. If you are satisfied it can be safe and maybe satisfied you are going to be selected anyway, then you come in and make your deal with DOE.

You may look at that and decide no, there is no way they can do it safely here, for whatever reason. Then all you have to do is say no. As Nancy Reagan says, just say no. Maybe somebody else will say yes, and you have avoided the problem.

S. 839, for the life of me, I cannot see how it hurts any state and why any affected state, or any other state for that matter, should not be anxious to see this bill passed.

Mr. GARCIA. I am very introverted, as you can tell, but I believe one of the drawbacks is everybody is afraid of making any kind of a decision saying yes, it is great.

As far as it looks on the common sense and logic standpoint, everything you said yesterday and today regarding getting people to say it is a real good thing, I will say that, personally, yes, it is. The way you have it implemented to go into effect is the only door that is going to be open, in other words, is what you are telling us.

The CHAIRMAN. I think so.

Mr. GARCIA. The Nye County Board of Commissioners has not taken a positive attitude or a negative attitude. We have been on the fence since this thing first came on, and that is where we are studying it.

As you can read from my testimony, the safety factor is the main thing that we are looking at, totally. They were coming in with the MX here a few years ago. They looked at all the aspects, and they finally, as you said, came to a "no "vote. They fought it strongly, opposed it, and it went off somewhere else instead of Nye County.

We have been dealing with the nuclear test site, which is in Nye County, and a third of our county, that yellow area, a third of that, which is bigger than seven states, is part of the Federal Government testing range for Nelles and for the nuclear site.

Down in Beatty and Amargosa Valley, we have many people down there that are opposing the Commission Board and saying we want it. The reason they say they want it is because they work at the test site. They are well aware. They have been working for 10, 20, 30 years. We still do not have that luxury of opening our arms and saying come on.

What you are saying, as far as this is the only door we have open for S. 839 to come and put those provisions in. It is a very good plan. I agree with it, and there is going to be a state, like you said. There may be somebody out there. Wyoming, Montana, Idaho, they are very sparsely populated. I believe they might be looking at it and say, hey, why not. We can put it out here in the middle of nowhere, and it will be taken care of. Then they get that provision.

So I believe it is a very good thing that you have in here.

The CHAIRMAN. I can tell you there are other states that have shown some interest. I do not want to say where. I do not want to say to what degree of interest, but just having the bill out there, there are some other states that are showing some interest in this thing.

I would also urge you to realize that the simple fact that you are for S. 839 does not mean DOE is going to say, well, okay, they are for S. 839, let us put it there, that means that they are weakening; or the fact that you talk about it and sort of negotiate to find out the facts also does not mean that it makes it more likely that your state gets picked for the site.

Mr. MOORE. May I make one more comment, Senator?

The CHAIRMAN. Yes, certainly, Mr. Moore.

Mr. MOORE. A two-pronged point here. One is I have heard your comments with reference to lawyers. I cannot say I am in total disagreement all the time, but with regard to S. 839, I still believe in the three branches of government. If something is not going right, sometimes you need a recourse. Sometimes lawyers may be not the best recourse, but nevertheless it is a recourse. I think to get the local community to give that up is asking a lot.

The CHAIRMAN. Well, we are giving a lot, too.

Mr. MOORE. Again, it is back to money, and that is not all that we are particularly concerned with.

Again, there is another element of the bill. It is easy to say $33 million and ultimately $4.75 billion or whatever the total amount would ultimately be over the period of the repository. As I understand the bill, the Secretary of Energy can come in at some point and unilaterally say, sorry, folks, you have not done that right, we want all our money back plus interest.

The CHAIRMAN. Well, let me explain that. You see, you get some payments in advance of siting the repository. All that is designed to do is if a state comes in and says, yes, we want it, and then the next day they begin to file lawsuits, they begin to pass zoning ordinances saying you cannot have a nuclear waste repository and, in effect, they try to frustrate what they have agreed to, then you say, well, the answer is no and we want our money back. Otherwise, a state could come in and accept the first $100 million and then attempt to frustrate the process. That is what that is meant to do.

Now, perhaps we ought to look at it in terms of allowing you to go to court. We have heard that testimony from Texas on the question of whether you have to pay that money back. Maybe we ought to look at that.

It is simply designed to have good faith. That does not mean that once you begin to put waste in a state that the Secretary of Energy can change his mind and say, aha, we do not want to pay the $100 million anymore.

Mr. MOORE. I was not sure but, again, it is unilateral, and it is the Secretary that can come in and say, no, I am sorry, the state does not have the same recourse. They have a review panel but not the same recourse to say stop.

The **Chairman**. Now, the state could sue, of course, if they violated the incentive agreement. So your fears on that I do not think are well-founded, but we will take the sharp pencil and see if we need redrafting. If you have some language on that, we would be happy to consider that to carry out the intent that I just described.

I have to go make a speech, and Senator Evans will preside.

Senator Evans, thank you very much. We have an excellent panel here. I hope you will have some good questions for them, because they have a lot of good answers. Thank you very much.

Senator **Evans** [presiding]. Thank you very much, and let me apologize to this panel. This is a tough day. The State of Washington's interests are being harassed on all sides, not just nuclear, so I need to be cloned in order to handle some of the problems.

Each of you represents local governments mostly in areas that are potentially the site of storage facilities. I am sure that Senator Johnston has taken testimony and had questions, and some of this may be a little repetitive.

For each of you, let me just pose a theoretical question to get the sense of where you are. If through the best scientific work that we know how to do today and done in as purely a scientific analysis as we could achieve the end result was that a long-term repository were to be suggested for your state at that point or your locality at that point, would you agree that that is something you should accept?

We will start with Mr. Moore.

I know what the problems have been with the process, and I have had as many concerns and questions about the process as I expect many of you have had. Assume for the moment that everything is done right. We all know we have some waste. We have to do something with it.

If the best that we can do in terms of scientific analysis is that the safest place for the whole Nation for this to be stored on a permanent basis is in your backyard, at that point do you think you should accept it?

Mr. **Moore**. That is a very difficult question to answer, Mr. Evans, and I will address it for this reason. Thus far in the process we have seen anything but a perfect program.

Senator **Evans**. I understand that.

Mr. **Moore**. So I am having to make an assumption that I do not feel on a local level I can make and give you a responsive answer. It is certainly an——

Senator **Evans**. I think you could give a responsive answer. I am assuming for the purposes of this question. I am saying that in whatever way we do it we find the very best scientific evidence that conclusively shows that this is the safest place and way to store the waste.

Mr. **Moore**. I would again have to say being an uninvited intrusion into our community and our local agriculture—you missed our earlier testimony about our local agriculturally productive county. I am going to say that at a local level the perception would still be a very difficult one to accept with open arms.

Senator **Evans**. Well, that is a lot of marching around the question. As a local official, you have to show some leadership, and you would have to make a decision. What would your decision be?

Mr. MOORE. I just do not feel that I am prepared to make that decision, Mr. Evans.

Senator EVANS. OK. Mr. Jones.

Mr. JONES. Well, Senator, you are certainly aware of our nuclear-oriented community in the tricities. I can personally get really excited about $33 million in our budget when we have a $25 million budget in Benton County, but the testimony earlier that I am concerned about, S. 839 using the unit of local government.

Here again, as ex-Governor you are aware that the 39 counties in the State of Washington are just about basically divided by the mountains. If you take that money and divide it among those counties and counties in Oregon, not specifying how the money will be divided, just using that term, that money could become a lot less and very less enticing.

Locating the repository on the Hanford project would basically complete the cycle. We do produce a lot of it there. We are in direct conflict with the state thoughts, but if it is scientifically safe, I think our community would accept it.

Senator EVANS. Mr. King.

Mr. KING. As I have stated earlier, I do not speak for the city of Oak Ridge or Roane County and in fact do not live there anymore. I was invited here because of my experience in the past. We do have officials from those communities here that will address you later.

The MRS Task Force set out to determine whether or not an MRS could be safely constructed and operated in the Roane County portion of Oak Ridge and came to the conclusion that it could. That was the primary concern there as was the case in the repository states.

Assuming the measures proposed by the local community are met by DOE, the MRS Task Force further concluded that the facility would be beneficial economically to the community. DOE has been very responsive in their proposal in addressing those issues set forth by the local community. I think the remaining issues are really more of trust and putting the mechanisms in place that will assure the local government has a proper role from this point on.

As I pointed out, it is my own view that the biggest problem we have to overcome is the fact that DOE in the past has not behaved as a good corporate citizen. It has not displayed the kind of sensitivity to the local community or the state that you would expect a private industry of that size to display.

Senator EVANS. I certainly agree with you.

Mr. KING. We will let the local representatives speak for themselves, but under the conditions set forth and apparently met by DOE and further enhanced by this bill, I would think the MRS would be accepted in the Roane County portion of Oak Ridge.

Senator EVANS. I am really trying to do this in a fundamental way, not tying it directly to S. 839 or any other legislation but just on the pure fundamental principle that the determination had been made and we stipulate that it has been made in the best nonpolitical scientific way in which we can possibly make this decision and the decision had come down to the fact that each locality separately was the safest and best place for the Nation to store its waste, then at that point do you feel responsible to accept it?

Mr. Garcia.

Mr. Garcia. My county has been living with the nuclear test site in the county for over 30 years. In fact, the county flag has a mushroom cloud on it, so that tells you how far back they go when they recognize it.

There are a lot of things that have been coming up about the fact that we might lose our tourist trade and such. The only thing, studying what has happened historically in Nevada, they had parties on top of the buildings looking for that orange fireball and the mushroom cloud. At that time in the 1950s, I think the population of the area was approximately 100,000 or a little more. At the present time I think the present population down in the southern part of our state is over 600,000. So it has not curtailed anything for that one part.

This is addressing a statement that Senator Reid made earlier of how the scientists did say at that time that everything was safe. They put the soldiers on the front guard, and St. George in Utah, I think, is suing the Federal Government, and a lot of people are having problems with what happened. I believe they have learned from that. I strongly believe that they have learned quite well.

I mentioned earlier to Senator Johnston that the towns of Amargosa Valley and Beatty are the two most affected, are the closest to the site, the proposed site. Amargosa Valley is standing there with open arms.

Pahrump Valley is approximately 60 miles southwest of the site. The Chamber of Commerce has had dinners with the DOE and just really put on a big plus thing. They have worked at that site anywhere from one year to 30 years, the people that live there, so they have lived with this thing, and I believe that that is part of their learning. Their intellect has shown them that there is some safeguards that are being initiated there.

The rest of the county, north of Beatty, I would say they are about 50/50 right now. They are standing on the fence but they are leaning very well toward this thing.

Taking what the chairman said earlier, and I heard the information yesterday that it is very safe, and what Senator Hecht also said as far as going to Sweden and walking over the basketball sized area that they have there, and also having gone through many of the trips into these areas myself, becoming better and better educated, my decision on the thing would be it is a go-ahead, but the biggest thing would be, like you said, supposing that it is safe.

That is the main thing, the safeguards, the safety, and especially to the future. I like what Mr. Rusche said yesterday, the fact of whether we are going to take care of our problems now in this generation because we caused them. They have been here from the 1930s until now. A lot of us have lived through this entire thing.

We are coming up with better and better ways of storing, better and better ways of safety, but we have to think of some of these things, not just 50 years. We are talking many, many, many generations in the future. That is what we have to do now.

Senator Evans. I think that we would probably all agree that the process to date has not given us great confidence, that there has not been either the association with State and local governments, there has been no real confidence in the scientific methodology or, more importantly perhaps than the methodology is the way the methodology was then——

Mr. GARCIA. Skipped over.

Senator EVANS [continuing]. Skipped over or abused or misused in the selection process.

Well, they are interesting and worthwhile responses. I must say that, given the way in which the question was posed, Mr. Moore, I am disappointed. Texas is the only one that shows no sign of any responsibility whatsoever in my view for the Nation's problem.

Mr. MOORE. Senator, if I might address that, you really have to take a look at the fact that we have been living with it.

Senator EVANS. I understand that, but the question is, in essence, if the Nation needs to resolve the problem and the best that we can do in terms of science and technology says that the safest place for the Nation is to put it in location X, as a local official at that point do you accept that. Three out of the four I think have said yes, and one out of the four will not answer.

Mr. MOORE. You know, Mr. Evans, again, not having lived with the situations as they have not and having dealt with DOE or the nuclear problem in any different aspect than the way it has been presented to us in Deaf Smith County, you are asking a question--I am not unresponsive to the needs of the United States, I hope.

I understand your question. You want to know if it is the safest place, can we put it there. Mr. Evans, again, I have to almost say it is a loaded question back to my community because I still have the feelings and the understanding of the way that we have been addressed up to now.

Senator EVANS. I know that.

Mr. MOORE. It is hard to remove those and respond to the general academic question you have asked.

Senator EVANS. I understand all of that, but it is hard to understand, given the nature of the question, how anyone could at that point say no, we still do not believe we would take it.

Mr. MOORE. I am not unresponsive. Again, I am just not able to give a concrete answer on that question.

Senator EVANS. It is sort of like when the war starts and they ask for volunteers, everybody but one steps forward.

Let me ask one other question of each of you. In your view has the Department of Energy lived up to your understanding of the requirements in the Act as it relates to consultation and the kind of meetings and other things that you understand were required by the Act up to now?

We will start with Mr. Garcia.

Mr. GARCIA. We have been fighting to get recognized as a local government. In 1985 the legislature proposed SB 67. You do not have this handout. At that time we went in to look at being in as one of the cooperating members. It had the state and local affected Indian tribes, but it did not have the local government.

In that respect, it was not the DOE. It was the Act that caused it.

Senator EVANS. However, the Act does not prevent DOE from consulting with local governments. It does not require them.

Mr. GARCIA. They have been responsive to our needs. Our consultants have been on board for over three and a half years, and we have been working constantly. Commissioner Revert has been there for eight years, sitting as a commissioner, and he has been on top of this thing all the time. In fact, he worked out at the test site for quite a while. So he is aware of these things.

Because of that relationship right there, we have had a good recognition, you might say, of lots of different things that we have looked at.

A month ago we took a trip to Carlsbad, New Mexico to meet with the local government there and to take a tour through the WIPP site there. It was very well taken. It was our county government that was there. We had representatives from each town, and a couple of the commissioners went and other elected officials of the county. They looked at it, and we were treated very well.

I cannot say that we have had that much of a problem, but I do not appreciate their skipping over what has been mandated by the Congress. That is bad. I address that in my testimony.

Senator EVANS. Mr. King.

Mr. KING. From the local perspective, in dramatic contrast to DOE operations in general, I think the office of DOE responsible for the MRS Program has been very, very cooperative. I think that, however, was in response to a perspective taken by the local community that it was not going to say no to a facility before it reviewed it and determine whether "no" was a responsible position or not.

I think as the community reviewed it with DOE's always-ready assistance, the conclusion reached by the local community, as documented in its report, was a very reasonable one.

I did not see the same kind of relationship by any stretch of the imagination with the state in Tennessee. I think that was largely the state's doing. You have representatives here from local governments that still have an interest in maintaining a good relationship with their states and do not want to come here and appear to contradict their state's position. I have no concern in that regard. I am not associated with that local government.

I do not think the state in Tennessee performed responsibly at all. I think had they taken the kind of approach that the local community did, they would be very satisfied with DOE's performance. They did not, and they are not. I do not know what the solution there is. I think DOE needs to take initiatives even if the state refuses to be receptive to those initiatives. In the Tennessee case, we had tremendous assistance from DOE from offices located in Oak Ridge. You did not see DOE go in and open an office, even a temporary office, in Nashville. So there was very little day-to-day interaction with the Nashville administrative offices or the legislative offices. It seemed to me they operated almost entirely in the dark for the whole period of 6 or 7 months that our local community was evaluating the program.

So I think, to answer your question directly, DOE has been very responsive to local government.

Senator EVANS. Mr. Jones.

Mr. JONES. Well, Senator, as far as the county goes, and I think the citizens in the Consortium, I think we have excellent rapport with our local DOE. You have to remember, we do have quite a contingent of DOE people there, and they live in our community, so naturally they are concerned.

As far as DOE as a whole, we would like to see them go ahead with finding a second site, but with DOE as a whole we have no problem.

Senator EVANS. Mr. Moore.

Mr. MOORE. Yes, Mr. Evans. As I understand it, our State government has not entered into a consultation and cooperation agreement.

Senator EVANS. I do not think any state has.

Mr. MOORE. I do not guess any of them have. Removing it to a local level, we have had some very hard or difficult misunderstandings with DOE in our communications, and I think that is one reason we are sitting here today before your committee, to express some of the situations and to express our concern and our need for a local vehicle by which we can communicate with DOE.

We have had some specific instances regarding the repository project officer visiting with our local government and indicating that mitigation fund through some type of creative financing could be available to us for projected-in migration compensation. That has been promised along the way. They gave us a specific date of April 14, at which time they would address that numerically, with numbers, as to how much. That has not come forth. In fact, they have not contacted us back on that. We have contacted them and gotten different answers.

We have also had occasions where we have had calls, myself and also the county judge who is present here today, inquiring as to what our permitting procedure is regarding seismic activity within the county. I asked specifically, are you with the DOE. The response was no, I am with a local law firm in Houston, Texas, and we are just taking a survey of counties. As it was tracked down, the person was actually working for Batelle.

So I know it is a minor point and it seems picky, but I am indicating our lack of communication that we have had with DOE.

Senator EVANS. Well, thank you very much. You have been most helpful and been on the stand for a long time. So we do appreciate your coming and the testimony which you have given, which will aid us in what I think is likely to end up being, I hope at least, a major and positive mid-course correction to the Nuclear Waste Policy Act which has been on the books now for 5 years. We have learned a lot in 5 years, not all of it good, but potentially some of it valuable in making the next 5 years a whole lot better than the last five.

Thank you very much.

The next panel is the Tribal Panel: Mr. Albert Barros, Tribal Council of Nez Perce Tribe, Lapwai, Idaho; Bill Burke, Tribal Representative, Umatilla Indian Reservation, Pendleton, Oregon; and Mr. Russell Jim, Director, Nuclear Waste, Yakima Indian Nation, Toppenish, Washington.

We welcome this panel to the Committee hearing. I am particularly pleased to have northwest friends and neighbors before me, and of course I am particularly pleased to have Mr. Russell Jim from our own state as one of the witnesses.

All of the three written testimonies which you have presented will be entered in full into the record, and we would be happy to have you summarize your testimony with emphasis on the important points that really bear on the difficult problems that we are now facing.

So we will start with Mr. Albert Barros from Lapwai, Idaho.

Mr. Barros.

STATEMENT OF ALBERT BARROS, NEZ PERCE TRIBAL EXECUTIVE COMMITTEE, LAPWAI, ID

Mr. BARROS. Thank you, Mr. Chairman. I would like to thank you for hosting this hearing and chairing it. As a neighbor from the State of Idaho, realizing the time that has been spent by the other people giving testimony and by the members of the staff and the committee, I will summarize very briefly what we have very carefully thought out and presented as testimony that has been submitted for the written record.

I would like to very briefly go over what I was contemplating as I was sitting there thinking of the long epoch history of the Congress, and then my mind began to wander a little to my Forefathers who came here before, sitting and waiting to testify about concerns that to them were just as strong as these are now.

The Nez Perce Tribal Executive Committee replaces our old Chief system. We no longer have chiefs, but we have an elected body. We are elected just as you gentlemen are. We are elected upon our record, upon our integrity and our promise for the future.

I realize that I am quite young to be here, but my people back home have expressed their support of me. When I was elected, my grandfather gave me some very important words of advice, and those were that although you are young, you are in a very powerful position. The decisions that you make are not just for you, your friends or your children. They are for your children's children and those to follow.

Nuclear waste is a very important issue. I feel that we, the Tribal Councils, the states, the Senators, the Congressmen and the President are making decisions not just for us, but as you look at nuclear waste we find that we are making a decision for at least the first 10,000 years. I realize that it is very weighty.

When you look at the nuclear waste proposals, on paper they look very good, but we have to consider the human factor in the operation of the repository. Anything can look good on paper. Chernobyl and the space shuttle Challenger are good examples. There, we had human error and the human factor. I think that we have to consider this as well, that it may look good on paper and there may be no flaws when it goes in, but the operation of that is very important.

Before the coming of the white man, we Indians were the stewards of the land, and the land took very good care of us. Once again, we have been thrust into the stewardship position into an oversight position. It is because of this role that we have begun to work with the Department of Energy.

We realize that Congress sets the law of the land, and many of us tribes here have not agreed at times with the law of the land.

We have objected very strongly, in fact going to war. We have learned that Congress is the law of the land, and it is the will of the people that must supersede all others.

We have come to a bad position with DOE, in that our tribal relations with them have developed into an adversarial situation. We have been thrust into the position of an affected tribe, just as there are affected states. Because of that status, we have the oversight position. We have the added responsibility of not only looking out for our people but for those people who reside in the State of Idaho, the State of Oregon, the State of Washington, as well as the concerns of the rest of the United States.

I take this role very responsibly, and I believe that if DOE will follow Congress' mandated rules, that there is no need for an oversight; but DOE has not done this. So we, because of our role, have to come before you folks to plead our case.

My written testimony has our concerns in there that, quite frankly, have become very political. We hope that DOE will be forced by Congress to once again adhere to the Act, that they will adhere to the letter of the law.

In summary, I would like to quote a phrase that is the very premise of the United States and for all that we believe. It is, "In God We Trust". I know that we all take our lives very seriously and those of our children. They have been granted to us by God, but then I believe that in God we trust but for DOE there must be oversight and perhaps litigation.

Our concerns were voiced earlier, and I am sure that Mr. Russell Jim and Mr. Bill Burke will voice our concerns also. I do not want to take any more of your valuable time, and I thank you for allowing me to be here. I know that you will or perhaps already have reviewed our written testimony.

[The prepared statement of Mr. Barros follows:]

TESTIMONY OF ALBERT BARROS
NEZ PERCE TRIBAL EXECUTIVE COMMITTEE
UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
APRIL 29, 1987

Mr. Chairman, members of the Committee, I am Albert Barros, a member of the Nez Perce Tribal Executive Committee ("NPTEC") and Vice-Chairman of NPTEC's Nuclear Waste Subcommittee. The NPTEC is the Tribe's governing body, and the Subcommittee bears primary responsibility for developing tribal policy on nuclear waste issues. While we are pleased to have the opportunity to present our views in person to the Committee, we note our disappointment at the effort required to ensure our participation in this important hearing. In the Nuclear Waste Policy Act, Congress quite appropriately made provision for the expansive participation of affected tribal governments in the processes established by the Act. We are disappointed that, after having persuaded the Department of Energy ("DOE") that we are equal players under the Nuclear Waste Policy Act, we find ourselves in the position of having to remind Congress of the role it established for us. Nevertheless, we are anxious for the Committee to consider our views and, therefore, are pleased to have the opportunity to appear.

I. The Role of "Affected Tribes" Under the Nuclear Waste Policy Act

The Nuclear Waste Policy Act of 1982 (the "Act" or "NWPA") was enacted by Congress to respond to the need to locate and construct disposal facilities for high-level radioactive waste generated by both civilian and defense activities. In the NWPA, Congress established an elaborate schedule for the siting, construction and operation of disposal facilities in deep geologic repositories. Congress mandated that the process for developing the repositories ensure that the wastes would not adversely affect either public health or safety or the environment, now or in the future. To develop public confidence in the repositories, Congress determined that public participation in the planning and development of the repositories was essential. The principal means of allowing for this public involvement are found in the role Congress provided for host states and "affected Indian tribes."

The NWPA thus confers special status upon "affected Indian tribes" in the repository program. Congress was expansive in defining "affected Indian tribes." That status was granted, of course, to all tribes hosting a potential repository site. Section 2(2)(a). But Congress also defined an "affected Indian tribe" as one "whose federally defined possessory or usage rights to other lands outside of the reservation's boundaries arising out of congressionally ratified treaties may be substantially and adversely affected by the locating of such a facility...." Section 2(2)(b). The three affected tribes now participating in the first repository program - the Nez Perce

Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and the Yakima Indian Nation - all are "affected Indian tribes" that are not host to a repository site. It was the Senate that led the effort to provide these rights of participation to "non-host" tribes.

The House bill, H.R. 3809, did not provide for participation by "non-host" tribes. Only "host" tribes were eligible for the rights of participation and financial compensation conferred in the Act under the House version. When, however, the House agreed to the definition of "affected Indian tribes" proposed by the Senate, the effect was to grant "non-host" affected tribes the same rights of participation and compensation that were available to "host" tribes under H.R. 3809.

It has become axiomatic among NWPA program participants that the legislative history of the Act is confusing. The conflicting approaches of the House and Senate were resolved in last minute negotiations during the lame-duck session of the 97th Congress. The intent of many provisions, therefore, is left uncertain by the lack of a final Conference Report.

Nevertheless, the legislative history gives a number of indications as to the appropriate role of "non-host" affected tribes. While it is true that the Act as passed is patterned after the final version of H.R. 3809, the actual intent of the Act with regard to "non-host" affected Indian tribes may be found only in the reports and debates in the Senate, where the definition of "affected Indian tribe" was created. In essence, the House bill strictly limited tribal participation under, for example, Section 118, to those tribes "on whose reservation" a repository was proposed to be located. The Senate bill, on the other hand, was less specific regarding the elements of tribal and state participation, but envisioned equal levels of participation between states and tribes. Moreover, the Senate drew no distinction between "host" tribes and tribes whose affected status arises from potential impacts on off-reservation possessory and usage rights.

When the House and Senate bills were reconciled in the closing hours of the 97th Congress, each house made key concessions that affect the issue of participation by "non-host" affected tribes. The Senate receded to the House on the provisions detailing the rights of participation of states and Indian tribes. See Sections 112-118. For its part, the House receded to the Senate on the question of whether "non-host" tribes should be included in the Act. The summary of the conference bill submitted to the Senate and listing the major changes to H.R. 3809 that were negotiated between the House and Senate said that:

> "The following summary sets forth those major changes to the House passed bill....
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> . . .
>
> "Rights conferred upon an Indian tribe to participate in the development of a repository, enter into a written agreement, transmit

> objections to Congress, and receive financial assistance, are extended to "affected Indian tribes." The term "affected Indian tribe" includes those tribes which, although the repository is not located on the reservation, would suffer substantial and adverse effects to possessory or usage rights to lands outside of the reservation. (H.R. 3809 limits tribal participation to those situations where the repository is located on the Indian reservation.)" Cong. Rec. S15654 (statement of Mr. McClure) (daily ed., December 20, 1982).

Thus, when the Conference Committee accepted the Senate definition of "affected Indian tribes," the effect was to extend to "non-host" affected tribes the same rights of participation and compensation as were available to "host" tribes under the House bill.

This complicated legislative history has been the basis of many of our disputes with the Department of Energy. Much to its credit, DOE has began to accept our view that "non-host" affected tribes are entitled to the same degree of participation as "host" tribes, and indeed, the same rights of participation as host states. Throughout the last half of 1986, the Nez Perce Tribe and the Umatilla Tribes carried on a running debate with DOE regarding the tribes' rights to request and receive impact assistance under Section 118(b)(3). After several exchanges of corresondence and several face-to-face meetings at which the issue was discussed, DOE finally determined that the Nez Perce and Umatilla were in fact entitled to request and receive impact assistance under Section 118(b)(3). Similarly, a dispute arose in December of 1986 regarding whether or not consultation and cooperation agreements with "non-host" affected tribes could include provisions regarding each of the eleven items listed in Section 117(c)(3). This issue was resolved in the tribes' favor when, by letter of February 13, 1987, Mr. Ben Rusche advised NPTEC Chairman Herman Reuben that each of the eleven items was open for discussion in negotiations between the Nez Perce Tribe and the Department of Energy for a consultation and cooperation agreement.

The Tribe is most pleased that DOE has come to concur in our view that "non-host" affected tribes are entitled to the same rights of participation that "host" tribes and states receive under the Act. We hope that this Committee now may understand more clearly our sensitivity to any failure to recognize the scope of our role in the Program.

Consistent with the tribal interests acknowledged under the Act, the Nez Perce Nuclear Waste Policy Act Program has defined carefully the role that it wishes to play in the NWPA process. Due to the existence of the three other affected governments in connection with the Hanford Site, our program has been careful to avoid duplicating work more appropriately conducted by the State of Washington, the

Confederated Tribes of the Umatilla Indian Reservation, and the Yakima Indian Nation. We have attached to this testimony a narrative description of the tribal program.

Our program focuses on the potential effects of a repository at Hanford on the Tribe's members, reservation, and resources in the possessory and usage area established in the 1855 Treaty between the Nez Perce Tribe and the United States. To some extent, therefore, our program focuses less on the site itself than, for example, the program of the State of Washington. This approach is entirely consistent both with our interests as a tribal government responsible for the welfare of tribal members, and with the NWPA's concern with the impacts of the repository siting process on the treaty rights of Indian tribes.

II. Objections to the First Repository Siting Process

Throughout the process of investigating, nominating, and recommending sites for characterization for the first repository, the Nez Perce Tribe has strived to maintain both the objectivity and the technical integrity of our programatic efforts. We do not claim, of course, to be objective in all respects. Given the choice of either having or not having a facility that may endanger natural resources on our reservation and in the area in which the Tribe may exercise rights of possession and use, obviously we would prefer not to have it. We nevertheless have expressed the view that if DOE can persuade us that no reasonable scenario exists under which dangerous levels of radioactivity will be released from a repository at Hanford, we will not exercise our right to disapprove the selection of Hanford.

In certain respects, of course, this is hardly a major consession on our part. If we are convinced that there is no possibility of harm to treaty resources, it would be both unethical and, more significantly, ineffective for us to exercise the right of disapproval. Unfortunately, a number of actions of the Department cause us to have a low level of confidence in DOE's evaluation of this critical issue.

Our complaints boil down to a belief that, regardless of the outcome of the work preliminary to site characterization, Hanford was going to be selected for non-scientific institutional reasons. Not having been privy to the deliberations of the Department in nominating and recommending sites for characterization, we cannot provide an exhaustive list of the institutional reasons for the selection of Hanford. Those reasons, however, certainly must include the fact that a large number of DOE personnel and DOE contractors' personnel already were at the Hanford site. As you know, work at Hanford directed at a high-level waste repository was under way while the Act was being considered by Congress.

This is not to say, of course, that we have identified at this early date factors that disqualify Hanford from consideration as a repository site. What we are saying is that, of the five sites recommended, Hanford clearly is the site most likely to be disqualified during the characterization process. DOE was well aware of this fact when it recommended Hanford for characterization; so aware, in fact, that it was necessary for DOE to systematically remove the many negative references to Hanford from early drafts of the Multi-Attribute Utility Analysis ("MUA") of the sites nominated for characterization for the first repository. DOE's justification for selecting Hanford despite its ranking last in both pre-closure and post-closure factors comes down to a claim that the "geological diversity" requirement of the NWPA compelled the selection of Hanford. This claim is fallacious on at least two grounds. First, the Nuclear Regulatory Commission has made clear that the "diversity" requirement is met by the selection of sites representing only two rock types. Thus, it simply was not necessary to pick sites of three different types. Second, if DOE's view of the "diversity" requirement is accepted, then Hanford and Yucca Mountain were destined to be selected from the issuance of the first area recommendation reports, in that they were the only non-salt sites under consideration. Evidently, DOE is asserting that, even if the tuff or basalt sites had shown likely disqualifying factors during the preliminary investigations, they nonetheless would have to have been selected for characterization.

Our concerns are heightened by the scholarly criticism of the selection of Hanford by experts not associated with any state or tribal program. Indeed, the strongest criticism of the first-round site selection process has come from people involved in the preparation of the MUA and the review of the site selection methodology by the National Academy of Sciences. Professor Ralph L. Keeney of the University of Southern California critiqued the DOE decision in a monograph entitled "An Analysis of Portfolio of Sites to Characterize for Selecting a Nuclear Repository." In his analysis, Professor Keeney conducted a "portfolio analysis" for selecting sites for characterization, concluding that Hanford should not be characterized.

Similarly, Professor Detlof von Winterfeldt, who participated in the review by the National Academy of Sciences of DOE's methodology for siting the first repository, reported to Mr. Rusche that:

> In brief, I believe that the conclusions drawn in the recommendation report are based on selective and misleading use of the analysis prescribed in the methodology report [MUA]. It is extremely hard to find in the methodology report any support for the selection of the specific set of three sites recommended for characterization. Instead, I find a convincing analysis that clearly rejects the Hanford site and, furthermore, supports the selection of the Richton Dome site over the Deaf Smith site. The way the methodology report was interpreted in the recommendation report, in my opinion, comes very close to a misuse of an otherwise excellent analysis.

These criticisms leave us concerned that DOE selected Hanford regardless of the unfavorable results of the preliminary investigations. This in turn leads us to believe that, if DOE already has decided that it wishes to construct a repository at the Hanford Site, it is going to do so regardless of the outcome of the scientific investigations mandated by the Act. We have little confidence in the objectivity of DOE's conduct of the technical investigations of the sites. The selection of Hanford clearly indicates that the program is not driven strictly by scientific considerations. However we may wish to characterize the considerations that led to the selection of Hanford, quite clearly those considerations were not scientific.

Our concern is intensified by the fact that DOE has announced that its "working hypothesis" is that each of the three sites being characterized are in fact acceptable and licensable by the NRC. By assuming before detailed work has begun that the site is acceptable, DOE may be preordaining its conclusion. This danger is all the more genuine in light of the NRC staff comments on the Environmental Assessments issued for the three first-round sites. A general criticism by NRC staff of the DOE program is that DOE consistently fails to use conservative assumptions in carrying out its technical studies. Given the profound danger posed by potential releases of high levels of radioactivity, the very least that we can ask is that DOE proceed conservatively in its investigations. DOE's "can do" attitude simply must not be allowed to prevail over serious concerns relating to the health, safety and welfare of the human beings in the area of the proposed repository.

Among the comments from NRC staff on the Environmental Assessment of the Hanford site were the following:

(1) The analysis presented in the final EA on natural resources does not consider available geothermal resource information.

(2) The existing limited data on potential fault activity supports the view that faulting may exist at or near the Reference Repository Location.

(3) The final EA did not take into consideration the potential impact of microearthquake swarms on the tectonic suitability of the Reference Respository Location.

(4) The high level of confidence DOE assigns to its finding that groundwater travel time at Hanford will exceed one thousand years is inappropriate due to the limited hydrogeologic data base.

These concerns, when combined with DOE's non-conservative approach and our belief that considerations other than scientific may be controlling the site selection process, cause us profound doubt as to the impartiality of DOE's scientific program. As noted above, investigations have not reached the point where disqualifying factors can be identified with confidence. Given what already is known about Hanford, we believe it clear that Hanford is more likely to be disqualified than other sites not recommended for characterization. In the face of criticism of the selection of Hanford, DOE must find a way to redeem that choice. We are deeply concerned, therefore, that the DOE scientific program will be designed not to discover such disqualifying factors.

We are further concerned that DOE will attempt to limit our investigations of potential disqualifying factors. Delays in DOE's processing of the Tribe's grant application, for example, have prevented us from carrying out important environmental data collection in a timely manner. The consistency of the pattern of bureaucratic inertia leaves us believing that DOE is intentionally hampering our investigative efforts through the grant process. Another example involves the Tribe's plans to investigate the potential for human interference with the Reference Repository Location arising from oil and gas exploration and the possibility that oil and gas reserves in paying quantities exist in the Pasco Basin. DOE has resisted our efforts in this connection, and quite clearly wishes to prevent us from pursuing this investigation.

In summary, we doubt the impartiality and the scientific bases of DOE's decision-making. DOE has prevented us from carrying out our independent investigations. If the first-round siting process survives judicial review and continues in past fashion, DOE faces a virtually certain notice of disapproval in addition to well-armed opposition in licensing proceedings.

III. Institutional Relations

In many respects, the current difficulties the program is experiencing might have been avoided had DOE taken a proper view of how relations were to be carried on with the affected tribes and states. We do not underestimate the difficulty of involving tribes and states in the repository siting process. Such involvement, however, is mandatory and we are most disappointed with the way that DOE has carried on these relations during the site selection process.

The most gross example of the Department's failure arose with the Secretary's May 28, 1986 decisions. At a meeting in Albuquerque only six weeks earlier, DOE representatives had promised the tribes and states at least 15 days notice of the release of the EAs and promised to try to give 30 days notice. As the Committee knows, the tribes and states were not given 30 days notice; they were give 30 minutes notice.

Moreover, we never were given any indication that a postponement of second repository work was under consideration. Given the very significant role Congress established for the tribes and states, it is unimaginable that DOE would make such a decision without at least advising the tribes and states that the matter was under consideration. The result of the illegal postponement of the second repository and the failure to adequately involve tribes and states in the first round site selection process is the 40 or so lawsuits now pending against the Department.

Recent developments have softened our views to some extent. The positive resolution of the impact assistance and Section 117(c) issues have given us some confidence that the Department has the capability of being fair and reasonable in its relationship with the Tribe. We attribute this improvement in our relationship with the Department to the personal interest that Mr. Rusche has taken recently in the Tribe's concerns, as well as the ascension of Stephen Kale to the position of Director of the Office of Geologic Repositories. These recent improvements have led directly to our willingness to engage in negotiations for a consultation and cooperation agreement with the Department.

Nevertheless, these improvements only carry so far. The fact remains that the postponement of the second repository is illegal and seems based on political not scientific considerations. We will continue to mistrust the Department unless and until that decision is reversed and site-specific work on the second repository resumed. The Act calls for contemporaneous investigations for both repositories. We cannot accept any less without sacrificing the interests of our constituents.

All that the tribes and states have asked is that DOE carry out the spirit and letter of the NWPA. We continue to believe that the process established by the Act is scientifically and fiscally sound, fair to all affected parties, and, most importantly, protective of public health and safety. It is the implementation that has been flawed; so badly flawed, in our view, that we must return to an early point in the process and revisit each key programmatic decision. By doing so, the NWPA process can be salvaged without sacrificing the fairness and the profound regard for public health and safety embodied in the Act.

IV. Nuclear Waste Policy Act Amendments of 1987

We regret that the Committee finds itself in the unfortunate position of considering amendments to what is essentially sound legislation. The proposed "incentive agreements" bill represents a retreat from the policies of the Act. The bill appears to concede that the institutional problems that always were sure to arise in the program are insoluble. The bill further assumes that public opposition to the siting of a nuclear waste facility in a particular state or community will be less of an impediment if the state government has waived its rights to object.

The premises of this bill are faulty in several respects. First, its seems to misperceive the role of the tribes and states in the Nuclear Waste Policy Act process under existing law. That role is an oversight role; it should never have been expected that tribes and states would become collaborators in the repository siting and development process. To the contrary, the tribes and states were to act as guardians of the public health and safety. While the relationship between DOE and the tribes and states need not have become hostile, it always was destined to be essentially adversarial.

The oversight role of the tribes and states is a critical element in ensuring the quality and integrity of DOE's technical program. While the NRC obviously is the primary forum in which deficiencies in the technical work is to be addressed, the oversight role of the states and tribes adds an additional layer of protection for public health and safety.

As noted above, the relationship between DOE and the tribes and states need not have become hostile. In fact, this hostility is a direct product of a consistent pattern of DOE attempts to limit tribal and state involvement in critical programmatic decisions. A proper conduct of institutional relations from the beginning by DOE would have resulted in a more stable and more productive program. Ironically, only as the program approaches failure has DOE began to improve its conduct of institutional relations. That improvement is tangible and has led the Tribe to believe that all need not be lost.

The greater involvement of tribes and states and the DOE decision making process, however, is not pervasive. As an example, earlier this month DOE excluded a representative of the Nez Perce Tribe and the Confederated Tribes of Umatilla Indian Reservation from a Quality Assurance audit of repository design in connection with the Hanford Site. The reasons for our exclusion remain somewhat obscure. It should go without saying that a QA audit regarding repository design may be of more than passing interest to the tribes and the State of Washington. We registered a protest with appropriate officials at Hanford but were unable to obtain satisfaction. This seemed a truly silly and counterproductive limitation on tribal participation. Actions such as this one have led to the existing distrustful relationship between DOE and the tribes and states.

The "incentive agreements" bill does nothing to relieve this tension. Where opposition to the siting process currently is led by the states and tribes, paying off a particular state or tribe only will result in other groups and institutions becoming more active in their opposition. After having bought off a particular tribe or state, opposition simply will be taken up by surrounding states and tribes and DOE will be no better off for having paid $100 million, $200 million, or even a billion dollars to buy off one source of public opposition.

Moreover, under the proposed bill, the oversight function currently residing in the tribes and states no longer would exist, or at least not to the present extent. In a matter so serious as the disposal of waste that is dangerous for at least ten thousand years, to lose even one element of both the comprehensive oversight process established in the Nuclear Waste Policy Act is to jeopardize the health, safety, and welfare of the current generation and those of the future. For these reasons, the Nez Perce Tribe never would accept payments under this bill for a facility within its jurisdiction, despite the profound need of the Tribe for funds to operate essential governmental programs.

We believe that the bill is poor public policy. We urge the Committee to forego consideration of this bill for the more appropriate response of taking every reasonable and necessary step to force DOE to comply with the Act as it now reads. Had DOE simply done what the law commands, the program would not be on the verge of collapse. This is not to say that the tribes or states ever would have been completely satisfied with DOE's decisions. The nature of our oversight role requires that we be extremely conservative in evaluating potential health and safety effects from repository development. But if DOE would comply with the letter of the Act and conduct institutional relations properly, there comes a point where tribal and state objections would lack merit. Current tribal and state objections, however, are clearly meritorious and exist primarily because DOE refused to listen and respond to genuine concerns.

I would be happy to answer any questions the Committee may have.

NEZ PERCE TRIBE
NUCLEAR WASTE POLICY ACT PROGRAM
APRIL 29, 1987

Upon its designation as an "affected Indian tribe" under the Nuclear Waste Policy Act ("NWPA") in late 1984, the Nez Perce Tribe established its Nuclear Waste Policy Act Program to provide the scientific, legal, and administrative capacity to participate effectively in the nuclear waste disposal program. The Tribe's off-reservation possessory and usage rights area, acknowledged in the Treaty of 1855, extends over portions of Idaho, Oregon, and Washington, and includes the Hanford Site. These off-reservation treaty rights that are the basis for the Tribe's designation as an "affected Indian tribe" under the NWPA by the Secretary of the Interior.

During the period 1984 until May 28, 1986, the Program was in the "pre-characterization" phase of the first round site selection process. The Tribe's efforts focused on defining tribal rights under the NWPA, and preliminary studies of the Hanford Site and other candidate locations. Reviews were conducted and comments submitted on key Department of Energy ("DOE") program documents. Preparation and plans were made in the event that the Hanford Site was formally recommended for site characterization.

Immediately following the recommendation of the Hanford Site for detailed site characterization on May 28, 1986, the Program began preparations for its longer-term involvement in the characterization of the site at Hanford. Specific objectives are as follows:

- Continuing technical reviews and monitoring of site characterization and other programmatic activities of DOE, the Nuclear Regulatory Commission ("NRC"), and other federal agencies;
- Providing critiques, comments, and recommendations on federal plans and activities;
- Conducting independent evaluations of DOE's geological, hydrological, and environmental investigations at the Hanford Site;
- Performing independent assessments of the effects of the BWIP site characterization activities and repository development on the Tribe's people, environment, economy, culture, government, and public health and safety;
- Participating in intergovernmental planning, review, and decision-making processes at the regional and national levels;

- Providing for effective public outreach and information dissemination; and

- Negotiating a Consultation and Cooperation Agreement with DOE to define and govern the conduct of site characterization activities by DOE and the oversight role of the Tribe.

The Tribe's technical contractor staff consists of approximately 45 people, of which some 75% are professionals in the fields of geology, hydrology, environmental sciences, chemical and nuclear engineering, economics, regional planning, business administration, education, law, and radiological/health physics. This core group is supported by other part-time and full-time consultants in such fields as atmospheric sciences, geohydrology, mining engineering, archaeology, anthropology, socioeconomic analysis, radiologic/health physics, and other pertinent disciplines. This team has been involved in reviewing, monitoring, and evaluating the large body of scientific data and technical documentation generated under the NWPA, and has produced a number of technical reports, commentary, and planning documents to support tribal decision-making under the Act.

The Tribe's Program is also supported by legal counsel and a media/public information consultant firm. These consultants provide, respectively, legal services necessary to assist the Tribe in negotiating a Consultation and Cooperation Agreement (C&C) and policy analysis, and facilitating the development and dissemination of public information. The major subcontractors of the tribal Program are Indian-owned and operated.

Following the decision by the Secretary of Energy and the President on May 28, 1986, recommending the Hanford Site as one of the three sites for characterization, three major planning efforts were undertaken. First, a Comprehensive Program Plan was developed to guide tribal NWPA projects throughout the site characterization phase. Second, an environmental surveillance plan covering the characterization phase was developed. Finally, a plan for assessing socioeconomic and cultural impacts was developed.

These plans involved extensive consultations between tribal and DOE personnel over a 10-month period. The environmental and socioeconomic assessment plans provide for the conduct of inpedendent tribal impact studies to be performed consistent with similar DOE impacts evaluations, as authorized under the NWPA.

Another major project of the Nez Perce Program is the analysis and monitoring of site characterization activities by DOE. To facilitate effective monitoring of the BWIP at Hanford throughout the site characterization phase, the Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation entered into a mutual assistance agreement which provides for a full-time on-site representative at Hanford. An office was established in Richland, Washington in mid-1986.

Tribal comments on DOE site evaluation activities have raised concerns about the adequacy of DOE efforts regarding: (a) possible oil and gas reserves in the Hanford area; (b) planned hydrologic testing; (c) off-site environmental impacts within the Tribe's possessory and usage rights area; (d) quality assurance programs at Hanford; and (e) impacts associated with transportation of spent fuel and other high-level radioactive wastes through the Tribe's reservation and treaty rights area. Some progress has been made in recent months in persuading DOE that its plans for site characterization and impact assessment activities need to be revised substantially so as to encompass all credible scenarios associated with repository and transportation operations. The Tribe believes that DOE's schedule-driven approach to site characterization may prevent the necessary comprehensive drilling, in-situ, and other testing programs.

The Tribe, unfortunately, has encountered substantial problems in its recent dealings with DOE concerning funding of tribal activities. These issues have had a major adverse effect on the Program. The Tribe submitted its strategic plan and detailed project plans, together with its request for grant funding for FY 1987, to DOE during September and October 1986. These documents were submitted in accordance with DOE's guidelines and timetable for grant application review and with the understanding from DOE that funding would be available for implementing all relevant site characterization-related activities. DOE subsequently issued a "preliminary determination" in late 1986 that the Tribe was ineligible for impact assistance funding under the Act and, therefore, independent tribal impact assessment activities leading to issuance of a tribal "impact report" were likewise ineligible for funding. This action was counter to previous statements and policy actions by DOE and resulted in denial of funding for implementing two major tribal projects (environmental and socioeconomic assessments), the planning of which had been funded in FY 1986.

The Tribe prepared a legal analysis refuting this DOE position and communicated its strong opposition to this interpretation of the NWPA. Subsequently, in January, 1987, DOE reversed its position, declaring that the Tribe was indeed eligible for such impact assistance funding. Although this decision should have cleared the way for immediate DOE approval of funding for all eight tribal projects planned for FY 1987, Such has not been the case. While substantial agreement has been reached concerning the eligibility, scope, and timing of tribal projects during FY 1987, the Tribe has continued to encounter problems in receiving authorization to initiate its full program of work.

If funding is not secured to provide these much-needed technical resources within the next 30 days, it is likely that the Tribe will not accomplish its objectives in such important milestone events as review and analysis of DOE's Site Characterization Plan, Cultural Resources Research Plan, Environmental Monitoring and Mitigation Plan, and Socioeconomic Monitoring and Mitigation Plan, not to mention other major on-going DOE and NRC activities. Equally important, substantial delays in the detailed planning and implementation of the Tribe's independent environmental, socioeconomic, cultural, and other assessment projects are being unnecessary delayed by lack of funding approval by DOE.

The Tribe has made diligent efforts to conduct its technical projects in accordance with NWPA milestones and schedules. It has also made every reasonable effort to accommodate the DOE Richland Operations Office in its reviews of several tribal grant applications for FY 1987 funding. To date, however, the Tribe has been limited to funding on a quarterly basis only at the FY 1986 "pre-characterization" level - not at the level of effort required in FY 1987. Clearly, DOE has unnecessarily inhibited the ability of the Tribe to participate effectively in the NWPA program.

Senator Evans. Thank you very much.
Mr. Jim.

STATEMENT OF RUSSELL JIM, MANAGER, NUCLEAR WASTE PROGRAM, YAKIMA INDIAN NATION, TOPPENISH, WA

Mr. Jim. Thank you, Senator Evans.

I, too, would like to echo some of Mr. Barros' statement, perhaps with the exception of the part on youth. I appreciate this opportunity to appear before you, Mr. Evans. I know as a representative of the State of Washington that people's concerns in the State of Washington are well represented by you.

I am going to read my statement, and I think it will be less than 10 minutes.

My name is Russell Jim. I am Manager of the Nuclear Waste Program of the Yakima Indian Nation. On behalf of the Yakima Nation Tribal Council Chairman Melvin Sampson, I wish to thank you for this opportunity to address the Committee about S. 839, the Nuclear Waste Policy Act Amendments Act of 1987.

In recent months, it has become apparent that the nuclear waste program is on the skids. There have been many suggestions made for ways to get the program back on track. Most of them have been based on the conclusion that the site selection process has been seriously flawed.

The bill being considered today, S. 839, also focuses on the site selection process but it takes a very different approach. Instead of addressing the flaws in the decisionmaking process that have led to the current mess, this bill would offer financial incentive to states and affected Indian tribes in return for their agreement to host repositories or MRS facilities.

This represents a radical departure from the course laid out for the nuclear waste program in 1982. In our view, it would not be a change for the better.

As a general proposition, the Yakima Indian Nation does not oppose the concept that host states and tribes should receive generous incentive payments in return for hosting a repository or MRS facility. Such payments would help lessen the perception that being host to these facilities is a no win situation. We object strongly to the idea that a financial incentive system can serve as a substitute for a technically credible site selection process for these facilities.

The Nuclear Waste Policy Act properly provides that detailed geologic considerations should be the primary criteria for the selection of sites for repositories. S. 839 would replace that geologic siting mechanism with a wheel of fortune or marketplace siting scheme. The sites for these facilities would be determined by the states or tribes that come forward first to claim the prize money.

S. 839 assumes that virtually any site would be suitable for a repository and that it does not matter how the repository site is actually selected. It is apparently based on the view that the states and tribes have no legitimate technical complaints and that their objections will fade away if they are offered sufficient financial incentives. We do not agree with that view. We feel it is totally inappropriate to use the offer of payments as the mechanism for choosing sites.

The primary reasons for the present lack of credibility of this program are the political basis for key program decisions and the lack of conservatism in the site selection process. Rather than try to find sites that are among the best that can be found, DOE insists that it need only find sites that are suitable. Instead of conservatively looking for evidence that might disqualify sites, DOE actively avoids such evidence, consistent with their unbounded optimism that all the sites are suitable.

With this optimistic approach to the program, DOE has recommended for characterization sites which defy common sense. They are under prime farm land, under priceless aquifers, surrounded by earthquake faults, adjacent to nuclear weapons testing, or in totally saturated fractured rock just a few miles from major rivers. Other sites which DOE has considered are directly beneath towns or directly beneath lakes.

Even if it could be objectively shown that some of these sites are technically suitable, the fact is that most people's instant reactions to them are negative. Most people are not as optimistic as DOE about the likelihood of success of this endeavor.

DOE's pursuit of sites with so many common sense problems conveys the strong impression that the agency is cavalier in its approach to implementation of this program. As long as DOE acts nonconservatively, the general public acceptance of that program is impossible, and we do not believe that offers of money will be likely to change that fact.

In sum, the integrity of the repository siting program is already on its deathbed. S. 839 would deliver the death blow. Explicitly throwing out the geologic approach to site selection in favor of a purely monetary approach would convince anybody who is still willing to give DOE the benefit of the doubt that the government has no intention of disposing of radioactive waste carefully.

Under this bill, the open offer to states and tribes to select themselves in return for incentive payments has as a test of technical merit only the Energy Secretary's satisfaction of suitability. It should be quite apparent by this time that the Secretary's satisfaction is reassuring to almost nobody.

To make matters worse, the Secretary's determination would not be subject to judicial review, and the state or tribe would have waived its right to judicial review or to submit a notice of disapproval of the site. In other words, even if characterization shows the site to be unsuitable, the state or tribe will have no recourse but to default under the agreement, in which case it would be required to return all the incentive payments plus interest.

Moreover, if the site is selected in the manner prescribed by the Nuclear Waste Policy Act, the state or tribe would not be eligible for the payments. This is not just throwing the credibility of the siting process out the window. It is grossly unfair.

As there is to be only one incentive agreement in place for each facility, it appears that this bill intends to exclude Indian tribes if the site is not within an Indian reservation and to exclude the state if a state is within an Indian reservation. Both of these exclusions are profoundly unfair.

It would be most unfair to an Indian tribe if a state entered into an agreement for a facility near the tribe's reservation and accepted payments without the concurrence and participation of the tribe. Similarly, the state would be seriously wrong if an Indian tribe within its boundaries entered into such an agreement without the blessing and participation of the state.

The cynicism of this bill is revealed by its potential for abuse with respect to small poor Indian tribes. Given to dismal economic conditions which characterize most Indian reservations, a small tribe might be tempted to enter such an agreement, essentially selling out its reservation in return for what would be enormous per capita payments to its present members. Even large tribes or states might be so tempted.

Proponents of the scheme will probably ask if they sell out willingly, who can complain? Future generations and culturally traditional members of that tribe can complain. The whole state, neighboring Indian tribes and nearby local government can certainly complain. Since the geologic suitability of the site is a mere afterthought under this bill, people who want nuclear waste to be disposed of safely can complain.

In conclusion, we urge the Committee to reject S. 839. The sites for nuclear waste facilities must be chosen on the basis of technical merit, not on the basis of economic desperation. Financial incentives for the host State and tribe should be enacted but they should be implemented only after the best site has been designated on the basis of meaningful, technical siting guidelines.

That concludes my oral statement, Mr. Chairman, and I would be willing to attempt to answer any questions you may have.

[The prepared statement of Mr. Jim follows:]

UNITED STATES SENATE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

Hearing on S. 839

Nuclear Waste Policy Act Amendments Act of 1987

April 29, 1987

STATEMENT OF RUSSELL JIM

ON BEHALF OF YAKIMA NATION TRIBAL COUNCIL CHAIRMAN

MELVIN R. SAMPSON

Mr. Chairman, Members of the Committee --

My name is Russell Jim. I am Manager of the Nuclear Waste Program of the Yakima Indian Nation. I am also on the State of Washington Advisory Council on Radioactive Waste Management. On behalf of Yakima Nation Tribal Council Chairman Melvin Sampson, I wish to thank you for this opportunity to address the Committee about Senate Bill 839, the Nuclear Waste Policy Act Amendments Act of 1987.

The Yakima Nation is an affected Indian tribe with respect to the proposed Hanford repository site in Washington State. The Yakima Indian Reservation is thirteen miles from the Hanford Site at the closest point, and most of the Hanford Site is on Yakima Ceded Lands. Under the Treaty of 1855 the Yakimas retain hunting, grazing, and food gathering rights on those Ceded Lands and fishing rights at usual and accustomed places on the rivers and streams which pass through them, including the Columbia and Yakima Rivers. It is on the basis of these treaty rights that the Secretary of Interior determined that the Yakima Nation is an affected Indian tribe under the Nuclear Waste Policy Act, and found that these treaty rights would be affected by the possible location of a nuclear repository at Hanford.

In recent months it has become apparent to virtually all observers that the nuclear waste program is on the skids. Last week the Energy Secretary finally conceded in testimony to the Senate Environment and Public Works Committee that the program is "staggering." There have been many suggestions made of ways to get the program back on track. Most of those suggestions have been based on the premise that the site selection process has been fatally flawed, and must be started over on the basis of meaningful, selective siting guidelines.

The bill being considered today, S. 839, also focuses on the site selection process, but it takes a very different approach. Instead of addressing the substantive flaws in the decision-making process that have led to the current mess, this bill would offer financial incentives to states and affected Indian tribes in return for their agreement to host repositories or Monitored Retrievable Storage facilities for high-level radioactive waste. This represents a radical departure from the course laid out for the nuclear waste program in 1982. In our view, it would not be a change for the better.

As a general proposition, the Yakima Indian Nation does not oppose the concept that host states and tribes should receive generous incentive payments in return for hosting a repository or MRS facility. Such payments undoubtedly would serve to lessen the perception of designation as host to these facilities as a "no win" situation. But we object strongly to the idea that a financial incentive system can serve as a substitute for a technically credible site selection process for these facilities.

The NWPA properly provides that detailed geologic considerations should be the primary criteria for the selection of sites for repositories. S. 839 would replace that geologic siting mechanism with a "wheel of fortune", or "marketplace" siting scheme. The sites for these facilities would be determined by the states or tribes that come forward first to claim the prize money.

Senate Bill 839 assumes that virtually _any_ site would be technically suitable for a repository, and that it is therefore immaterial by what method the repository site is actually selected. It is apparently based on the view that the states and tribes have no legitimate technical complaints, and that their objections will fade away if they are offered sufficient incentives in return for accepting a repository or MRS facility. In this view, the _only_ obstacle in the way of a successful program is unfounded obstructionism on the parts of affected states and Indian tribes.

What we feel is totally inappropriate is to use the offer of payments as the mechanism for choosing sites. As we have testified recently before this Committee and elsewhere, the primary reasons for the present lack of credibility of this program are the blatantly political bases for key program decisions, and the obvious lack of conservatism that characterizes the site selection process. Rather than trying to find sites that are among the best that can be found, DOE insists that it need only find sites that are "suitable." Instead of conservatively looking for evidence that might disqualify sites, DOE actively avoids such evidence, insisting with their unbounded optimism that all the sites are suitable.

With this excessively optimistic approach to the program, DOE has recommended for characterization sites which defy common sense. They are under prime farmland, under priceless aquifers, surrounded by earthquake faults, adjacent to nuclear weapons testing, or in totally saturated, fractured rock just a few miles from major rivers. Other sites which DOE has considered are directly beneath towns, or beneath lakes.

Even if it could be objectively shown that some of these sites are technically suitable, the fact is that most people's reactions to them are instantly negative. Most people are not nearly as optimistic as DOE about the likelihood of success of this endeavor. DOE's insistence on pursuing a slate of sites with so many common sense problems conveys the strong impression that the agency is cavalier in its approach to implementation of this program. As long as DOE acts so non-conservatively, general public acceptance of the program is impossible, and we do not believe that offers of money will be likely to change that fact.

In sum, the integrity of the repository siting program is already on its death bed. S. 839 would deliver the death blow. Explicitly throwing out the geologic approach to site selection in favor of a purely monetary approach would surely convince anybody who is still willing to give DOE the benefit of the doubt that the government has no intention of disposing of radioactive wastes carefully.

Under this bill, the open offer to states and tribes to select themselves in return for incentive payments has as a test of technical merit only the Energy Secretary's satisfaction of suitability. (Sec. 401(e).) It should be quite apparent by this time that the Energy Secretary's satisfaction is reassuring to almost nobody. To make matters worse, the Secretary's determination would be exempt from judicial review (sec. 401(g)), and the state or tribe would have waived its right to judicial review or to submit a notice of disapproval of the site. (Sec. 402(b)(3) and (4).) In other words, even if characterization shows the self-selected site to be unsuitable from the perspective of the state or tribe, the state or tribe will have no recourse but to default under the agreement, in which case it would be required to return all the incentive payments plus interest. Moreover, if the site is selected in the manner prescribed by the NWPA, the state or tribe would not be eligible for the payments. This is not just throwing the credibility of the siting process out the window, it is grossly unfair.

As there is to be only one incentive agreement in place for each facility, it appears that this bill intends to exclude Indian tribes if the site is not within an Indian reservation, and to exclude the state if a site is within an Indian reservation. Both of these exclusions are profoundly unfair. An Indian tribe would be grievously wronged if a state entered into an agreement for a facility near the tribe's reservation, and accepted payments without the concurrence and participation of the tribe. Similarly, the state would be seriously wronged if an Indian tribe within its boundaries entered into such an agreement without the blessing and participation of the state.

The underlying cynicism of this bill is made painfully apparent by its potential for abuse with respect to small, poor Indian tribes. Given the dismal economic conditions which characterize most Indian reservations, a small tribe might be tempted to enter such an agreement, essentially selling out its reservation in return for what would be enormous per capita payments to its present members. Even large tribes or states might be so tempted. Proponents of this scheme will probably ask, "If they sell out willingly, who can complain?" Future generations and culturally traditional members of that tribe can complain. The host and surrounding state(s), neighboring Indian tribes, and local governments can certainly complain. And since the geologic suitability of the site is a mere afterthought under this bill, people who want nuclear waste to be disposed of safely can complain.

In conclusion, we urge the Committee to reject S. 839. The sites for nuclear waste facilities must be chosen on the basis of technical merit, not on the basis of economic desperation. Financial incentives for the host states and tribes should be enacted, but they should be implemented only after the best sites have been designated on the basis of meaningful technical siting guidelines.

Senator EVANS: Thank you very much, Mr. Jim.
Mr. Burke.

STATEMENT OF BILL BURKE, TRIBAL REPRESENTATIVE, UMATILLA TRIBE, AND DIRECTOR OF UMATILLA NUCLEAR WASTE STUDY PROGRAM, PENDLETON, OR

Mr. BURKE. Thank you, Mr. Chairman.

Mr. Evans and the members of the committee and staff, my name is Bill Burke, and I am a member of the Umatilla Tribe and the Director of the Umatilla Nuclear Waste Study Program.

As the chairman had indicated, written comments have been submitted to the committee for the record, and to expedite matters I would like to touch upon some important points that I feel are necessary this afternoon.

You have already heard of the many disagreements affected parties have with DOE, and you will hear more from me in a minute. We do seem to agree on one thing. The nuclear waste repository program is in need of Congressional review and direction. We submit this testimony so that the committee may be aware of the views of the Umatilla Tribe concerning the compensation bill recently introduced by Senators Johnston and McClure.

S. 839 seeks to drastically revamp the framework for selecting facilities for the storage and disposal of this Nation's high-level radioactive wastes set out in the Nuclear Waste Policy Act. Congress crafted the Nuclear Waste Policy Act to be a bold Federal experiment to site nuclear waste facilities with the active involvement of the affected States and tribes. Congress sought the participation of affected governments in the repository program to ensure the protection of public health and safety and the environment.

As the Federal Court of Appeals for the ninth circuit recognized in the Nevada case, the independent oversight and peer review which only the affected parties are able to provide serves to promote the public confidence in nuclear waste facilities that Congress found essential. The ninth circuit's reading of the Nuclear Waste Policy Act led them to believe Congress did not want DOE to guard the chicken coop alone.

The need for affected parties overseeing the DOE repository program is now more apparent than ever. DOE has publicly stated its working hypotheses that each of the three sites selected for characterization will be found suitable for development as a repository and that each site will easily meet the EPA standards.

A site characterization program premised on this assumption without a diligent oversight of affected parties could lead to an unlicensable site or, worse yet, a licensed repository that proves incapable of isolating radioactive wastes for the regulatory period.

As you heard yesterday, the Nuclear Regulatory Commission, NRC, has reviewed DOE's environmental assessments, and their analysis challenged important DOE findings and conclusions for the first repository site.

The NRC report concludes that DOE's claim concerning the superior performance of each site in meeting the EPA standard was overly optimistic. Looking ahead to site characterization, the NRC sounded the alarm against allowing DOE to proceed with reduced oversight authority by affected parties. The NRC warned, "The significance of the above concerns is to DOE's ongoing preparation of the site characterization plans and eventually to site characterization activities, since the general overoptimism as well as the specific concerns could result in inadequate testing programs and inadequate information at the time of licensing."

Because of our concerns and those of the NRC, we are opposed to any change in the Nuclear Waste Policy Act that weakens the oversight authority of an affected state or tribe. S. 839 would certainly have that effect. Access to judicial review and the threat of a notice of disapproval are important tools for affected parties to ensure DOE's implementation of the repository program meets Congressional objectives and regulatory standards.

Equally as important is the need to maintain the vigorous independent oversight authority of affected parties. Requiring the host government to expedite repository characterization and construction would allow the DOE fox to alone guard the state or tribal chicken coop. The bill would then deprive the host government of the power to vigorously exercise their duty to act as guardians of their citizens and their environment.

Perhaps the greatest flaw in the bill lies in its blatent attempt to purchase public competence in and acceptance of a repository that DOE's mismanaged repository program could never earn. The bill offers big money to the host government and local communities on the mistaken assumption that if these governments are neutralized, public opposition will dissipate. I can assure you that will not be the case.

The Umatilla Tribe understands and appreciates the motivation for S. 839. We recognize the need to site and construct facilities for the storage and disposal of high-level nuclear wastes.

At the oversight hearings conducted by this Committee last February, Senator Johnston stated he recognized there were problems with the Nuclear Waste Policy Act process but that he was not inclined to abandon that process until a better one was in place. We submit that S. 839 is not a better process.

At those same hearings, Senator McClure stated that he felt that the Nuclear Waste Policy Act is still a reasonable and well-balanced piece of legislation. We agree with that assessment. We oppose S. 839 because it recognizes the complete breakdown of the repository program, but it fails to properly diagnose the cause of the program's ills; consequently, its prescribed treatment will not produce the desired result.

The bill may actually encourage exactly what the legislation seeks to avoid, the waste of hundreds of millions of ratepayers' dollars on a process that will not produce a licensable repository. We urge this committee to apply pressure on DOE to implement the Nuclear Waste Policy Act as Congress intended. This pressure can begin with a pointed Congressional response to DOE's draft mission amendment that asks Congress to put its stamp of approval on proposals which are either in violation of the letter or spirit of the Nuclear Waste Policy Act.

Mr. Chairman, I speak for the Umatilla Tribe in telling you that we are prepared to work with this Committee to make the repository program work as Congress intended. S. 839 turns its back on the cornerstones of the Act which we feel are essential to the safe disposal of nuclear wastes; therefore, we urge the committee to reject the compensation approach and to maintain their commitment to vigorous State and tribal oversight of a repository program rededicated in its effort to locate nuclear waste facilities where they will provide maximum protection to our people and our environment.

Thank you.

[The prepared statement of Mr. Burke follows:]

TESTIMONY OF THE
CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION
BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES
COMMITTEE

APRIL 29, 1987

Mr. Chairman, and Members of the Committee, my name is Bill Burke and I am a member of the Umatilla Tribe and the Director of the Umatilla Nuclear Waste Study Program. The Umatilla Tribe has been an active participant in the first repository program since 1983 when the Department of Interior certified that there was the potential that the Tribe could suffer significant and adverse impacts to our off-reservation treaty rights should Hanford be selected as a repository for nuclear wastes. My program and our consultants have closely scrutinized DOE's repository program and the Department's Hanford activities in particular. Because of our concern for our treaty rights and our involvement in the repository program, we are monitoring Congressional oversight of the Nuclear Waste Policy Act program and the proposals to amend the Act. While you have already heard of the many disagreements affected parties have with DOE, and you will hear more from me in a minute, we do seem to agree on one thing: the nuclear waste repository program is in need of Congressional review and direction. We submit this testimony so that the Committee may be aware of the views of the Umatilla Tribe concerning the "compensation" bill recently introduced by Senators Johnston and McClure, S.839.

Before turning to the substance of my comments, I want to commend the Committee for finally recognizing that each of the affected tribes should be entitled to present testimony today. We were greatly disappointed when we learned 2 weeks ago that representatives from the states, local governments, utilities and environmental groups would be allowed to testify, but the affected tribes would not. We have been struggling for the past 2 years to convince DOE of the ovesight authority and participatory rights of affected tribes. Our principle argument has been that the expressed intent of Congress was that affected tribes should be treated in a manner consistent with states. The strength of our claim would certainly have been diluted had we been overlooked by this important oversight committee. Again, we thank you Mr. Chairman, and the efforts of your assistant, Mary Louise Wagner, that resulted in my being able to testify before you today.

Let me turn now to our comments on the compensation bill that is the subject of this hearing. S. 839 seeks to drastically revamp the framework for selecting facilities for the storage and disposal of this nation's high-level radioactive wastes set out in the Nuclear Waste Policy Act. Congress crafted the Nuclear Waste Policy Act to be a bold federal experiment to site nuclear waste facilities with the active involvement of the affected states and tribes. Congress sought the participation of affected governments in the repository program to insure the protection of public health and safety and the environment. As the Federal Court of Appeals of the 9th Circuit recognized in the Nevada case, the independent oversight and peer review which only the affected parties are able to provide serves to promote the public confidence in nuclear waste facilities that Congress found essential. The 9th Circuit's reading of the Nuclear Waste Policy Act lead them to believe Congress did not want DOE to "guard the chicken coop alone."

The need for affected parties overseeing the DOE repository program is now more apparent than ever. DOE has publically stated its working hypothesis that each of the 3 sites selected for characterization will be found suitable for development as a repository and that each site will easily meet the EPA standards. A site characterization program premised on this assumption, without the diligent oversight of affected parties, could lead to an unlicensable site or, worse yet, a licensed repository that proves incapable of isolating radioactive wastes for the regulatory period.

The Nuclear Regulatory Commission (NRC) has reviewed DOE's Environmental Assessments and their analysis challenged important DOE findings and conclusions for the first repository sites. The NRC comments on the Hanford Environmental Assessment found that many of DOE's findings of favorable site conditions were based on sparse data that could just as easily support alternative findings adverse to DOE's interpretation. The NRC characterized many of DOE's favorable findings as "premature", "extremely tenuous" and reached by means other than a "conservative approach." The NRC claimed many of DOE's

Environmental Assessment conclusions were "overly favorable" or "optimistic". The findings and conclusions that were the subject of NRC's critical review went to the heart of Hanford's containment capability. They included concerns about groundwater travel time, the tectonic suitability of the site, earthquake swarms, the life expectancy of the waste package and the potential for human interference in the vicinity of the site because of the presence of geothermal resources.

The NRC made similar critical comments about the Yucca Mountain and Deaf Smith sites as well. The NRC report concluded that DOE's claim concerning the superior performance of each site in meeting the EPA standard was "overly optimistic". Looking ahead to site characterization, the NRC sounded the alarm against allowing DOE to proceed with reduced oversight authority by affected parties. The NRC warned:

> "The signifance of the above concerns is to DOE's ongoing preparation of the site characterization plans and eventually to site characterization activities, since both the general over optimism as well as the specific concerns could result in inadequate testing programs and inadequate information at the time of licensing."

I should also point out that the Umatilla and Nez Perce Tribes, and our consultants, are actively engaged in an investigation of the presence of commercial quantities of oil and gas resources in the vicinity of the Hanford site which could disqualify the site under the siting guidelines. I have attached a summary of our findings to date to my testimony so I will not go into great detail. Suffice it to say that oil and gas exploration activities around Hanford are increasing in an era of depressed exploration budgets. DOE's dismissal of the issue in the Hanford Environmental Assessment based on the "current economics" of this rapidly depleting, nonrenewable resource of great potential value surrounding a repository required to isolate radioactive wastes for thousands of years defies reason.

Because of our concerns, and those of the NRC, we are opposed to any change in the Nuclear Waste Policy Act that weakens the oversight authority of an affected state or tribe. S. 839 would certainly have that effect. Access to judicial review and the threat of the notice of disapproval are important tools for affected parties to insure DOE's implementation of the repository program meets Congressional objectives and regulatory standards. Equally as important is the need to maintain the vigorous independent oversight authority of affected parties. Requiring the host government to expedite repository characterization and construction would allow the DOE fox to alone guard the state or tribal chicken coop. The bill would then deprive the host government the power to vigorously exercise their duty to act as guardians of their citizens and their environment.

Perhaps the greatest flaw in the bill lies in its blatent attempt to purchase public confidence in, and acceptance of, a repository that DOE's mismanaged repository program could never earn. The bill offers big money to the host government and local communities on the mistaken assumption that if these governments are neutralized, public opposition will dissipate. I can assure you that will not be the case. Take Hanford as an example. While we feel confident Washington would never offer up the Hanford site, just assume they did. Washington's quiescence would not dispel the concerns of the Umatilla Tribe, nor the Nez Perce or Yakima I suspect. In fact, it appears the bill would disenfranchise the 3 affected tribes from the process - a result that is guaranteed to incite intense opposition. I am also certain the states of Oregon and Idaho would continue their present challenges to siting a repository at Hanford. Instead of placating our concerns about Hanford, my level of confidence in the integrity of DOE's repository work would be greatly reduced even from its present low mark if such a scenerio ever occured.

The Umatilla Tribe understands and appreciates the motivation for S.839. We recognize the need to site and construct facilities for the storage and disposal of high level nuclear wastes. At the oversight hearings conducted by this Committee last February, Mr. Chairman, you stated you recognized there were problems with the Nuclear Waste Policy Act process, but that you were not inclined to abandon that process until a better one was in place. We submit that S.839 is not a better process. At those same hearings, Senator McClure stated that he felt that "the Nuclear Waste Policy Act is still a reasonable and well-balanced piece of legislation." We agree with that assessment. We oppose S.839 because it recognizes the complete breakdown of the repository program but it fails to properly diagnose the cause of the program's ills and, consequently, its prescribed treatment will not produce the desired result. The bill may actually encourage exactly what the legislation seeks to avoid: the waste of hundreds of millions of ratepayer dollars on a process that will not produce a licensable repository.

We urge this Committee to apply pressure on DOE to implement the Nuclear Waste Policy Act as Congress intended. This pressure can begin with a pointed Congressional response to DOE's Draft Mission Plan Amendment that asks Congress to put its stamp of approval on proposals which are either in violation of the letter or spirit of the Nuclear Waste Policy Act. Congress should then instigate an independent review of the outstanding issues that have brought the repository program to a standstill. These issues include:

- The actual implementation of the methodology used to select sites for characterization as the first repository.
- The inability of DOE to implement the consultation and cooperation provisions of the Act and how the respository program should be structured to allow for greater involvement by affected parties.
- The need for, and function of, an independent panel of experts to scrutinize key DOE decisions in the repository program so as to insure decisions are based on technical merits and not on political or programmatic factors.

Mr. Chairman, I speak for the Umatilla Tribe in telling you that we are prepared to work with this Committee to make the repository program work as Congress intended. S.839 turns its back on the cornerstones of the Act which we feel are essential to the safe disposal of nuclear wastes. Therefore, we urge the

Committee to reject the "compensation" approach and to maintain their commitment to vigorous state and tribal oversight of a repository program rededicated in its effort to locate nuclear waste facilities where they will provide maximum protection to our people and our environment.

ATTACHMENT

One of the significant examples of the Tribe's "oversight" activities concerning DOE siting efforts has been a recent study initiated by one of the Tribe's senior consulting geologists (who also served as the interim on-site tribal representative at Hanford) related to potential oil and gas resources in the Hanford area. Section 112(a) of the Nuclear Waste Policy Act of 1982 requires the DOE to prepare "general guidelines for the selection of sites in various geologic media." Section 112(A) then states that:

> ... Such guidelines shall specify factors that qualify or disqualify any site from development as a repository; including factors pertaining to the location of valuable natural resources,...

The most likely natural resources to be found in or below the Columbia Plateau basalts in the Hanford area oil and gas, ground water, and geothermal resources. On page 6-184 of the Hanford Environmental Assessment, released on May 28, 1986, DOE states that, "the presence of hydrocarbons from beneath the basalts is, at best, speculative." On the preceding page, however, DOE contradicts this conclusion by stating that Shell Oil and Atlantic Richfield have completed and tested four wells in the area, although they were "deemed noncommercial". In at least one of these wells, a signficant amount of gas was produced, but current prices were too low to support major field development. These wells were deep and very expensive to drill in the tough plateau basalts, but exploration in the area continues at a rapid pace. In a period of low oil and gas prices, combined with a nationwide decline in oil company budgets for domestic exploration, this activity is particularly significant.

The interest in the Hanford area as a potential oil and gas exploration target zone is also shown by the requests for exploration by oil companies. The Bureau of Land Management (BLM) and the Washington Division of Geology and Earth Resources have received over 150 lease applications for areas within the Hanford Reservation. During 1986 alone, more than 250 line miles of seismic exploration data were collected in the Hanford area. A fifth wildcat exploration well was also granted a permit to drill to 15,000 feet, a very expensive undertaking with current exploration budgets.

As stated by DOE in the Hanford Environmental Assessment (EA) (page 6-183):

> "A small, depleted, low-pressure, natural gas field in basalt that was in production from 1929 to1941 is present on Rattlesnake Mountain at the southern edge of the Hanford site (11 kilometers (7 miles) south of the reference repository location). At current economies, the old Rattlesnake Hills gas field is noncommercial."

As in the previous example, the DOE conclusion on repository disqualification is based on "current economics," not on long-term supply/demand curves for natural gas resources. Basing a disqualifier for repository site on "current ecomomics" of a rapidly depleting, nonrenewable natural resource of great potential value seems unrealistic. Instead, the disqualifying condition should be oriented to the long (up to 1000 years) postclosure period when such resources may be sufficiently valuable to attract exploration ventures and thus making the site subject to "human interference." In addition, the "small, depleted, low-pressure" field produced a total of 1.3 billion cubic feet of gas prior to 1941 (McFarland, 1983, Washington Div. Geol. Info. Circ. 75).

The presence of natural gas in the plateau basalts is becoming a concern to DOE for a reason other than economic development. DOE recently began discussing the potential for redesigning the exploratory shaft. This redesign is apparently due to the need for increased ventilation of methane gas in the basalts at the repository horizon. The change in diameter of the exploratory shaft from 6 feet to 9-12 feet indicates a significant change in the amount of ventilation deemed necessary for worker safety.

The deep exploration wells, the seismic profiles, and surface geophysics, such as aerial magnetometer and side-looking radar surveys, are beginning to delineate features that may directly impact the repository program. Since structural traps, such as folds and faults, are the first places explored for oil and gas resources, a significant amount of new structural data are being acquired. Piecing some of these data together in a logical manner was the goal of the CTUIR and Nez Perce interim on-site representative at Hanford in mid-1986. His cross-section analysis shows that several thrust faults may have been present in the old Rattlesnake Hills gas field, as indicated by a potentially repeated series of Oligocene (older) coal seams overlying Miocene (younger) basalts. Several major folds north of Rattlesnake Ridge, such as the Yakima, Umtanum-Gable Mountain-Gable Butte, and Saddle Mountain anticlines, may be bounded on their northern flanks by similar thrust faults. Thrust faults in the Wyoming-Idaho Overthrust Belt have, in the past 20 years, become the most important onshore oil and gas exploration province in the continental United States and Canada. This indication of potentially significant faults near the Hanford site should be evaluated by DOE for the impact of capable faults and seismicity on the location of a respository.

This tribally sponsored study concerning potential hydrocarbon resources at Hanford further supports the Tribe's contention that the site may not be suitable for characterization. The Tribe contends that, at the very least, DOE should provide for a drilling and test program to determine the extent of subterranean faults and potential hydrocarbon resources at the site during characterization. However, at present, DOE does not plan to conduct such tests.

Senator Evans. Thank you very much, all three of you.

There have been similarities, of course, in your testimony. Let me ask some questions of each of the three of you on some of those elements.

First, if either a new bill or a revised bill were to be introduced that retained, hopefully, an improved scientific way of selecting a site for a nuclear waste repository and then after a technical search had brought forth a selected site, if then a compensation system were set in place not as something of a payoff but as a recognition of the potential costs or compensation for the use of the land and the area after the scientific work had been done, do you think that under those circumstances a compensation program would be a worthwhile addition to current legislation?

We will start with Mr. Barros.

Mr. Barros. Mr. Chairman, I think that mankind now, with all of our expertise, all the advances that we have made since coming out of the cave, I sincerely doubt if we can make something that would be infallible. We believed the space shuttle to be safe. As I stated before, it is human error that causes the fatal flaw.

If it is going to happen, I guess it is going to happen. If it were to be sited within our ceded area in which our treaty rights are guaranteed by a treaty with the United States of America, I think that we should be compensated, but I hope for my children's children, those yet to come, that we can make this as safe as possible.

Senator Evans. Mr. Jim.

Mr. Jim. Mr. Chairman, perhaps I need not remind you of the situation that the Yakima Nation is in with regard to its treaty right, and perhaps a gentler reminder to the entire Nation of what the indigenous people of this land have given up. There is an exhibit, for instance, in the Russell Senate Building in regard to 6 million people. In the 1960s the indigenous populace of this country was down to 650,000 from an estimated 10 to 15 million of 500 years back.

The contribution-plus today that the Yakima Nation and others have given, I think, has been tremendous. For the good of the Nation or national security or patriotism, the Yakima Nation allowed Hanford to be utilized, but now we are denied use of that area which was agreed to by the United States of America through a treaty. We are denied the use of the area because of fear of the unknown.

If the site selection process is done on a scientific technical meritorious program and the site of Hanford and the basalt turns out to be a medium for high-level waste nuclear material, the first question we would probably ask is why nearest the mightiest river in the Northwest.

We do have the second largest basalt formation in the world. But I am presupposing, because I cannot speak for the entire Yakima Indian nation.

But if a site was found to be technically safe, I am supposing that just compensation would have to be provided.

There are many complications, as you well know, with that brief statement. There is much to be considered. For instance, what would that do to the treaty, as we know it?

So it is a difficult question you pose, but I can see the reason for that question, and I appreciate this opportunity. But if I may just say one more thing.

Senator EVANS. Surely.

Mr. JIM. I was notified Friday that I would be here, and Monday definitely. And it stemmed from the fact that when we heard of this hearing, we asked if we were going to be involved.

And they said, well, no. We said, why? They said, well, maybe. Can you send one person to represent all three tribes?

That question was posed to us over a year ago again. And we said, well, then if you have one representative from the three affected States talk for all three States, we'll have one tribal member speak for all three tribes.

They said, we can't do that. My point is, Mr. Evans, as you well know, under the Nuclear Waste Policy Act, and the statement by the President of the United States that we must be dealt with on a government-to-government basis. We are a government.

And we are an integral part of the act. And so it is somewhat insensitive to be asked to send one representative to speak for all three tribes.

I wish to make that point for future reference this morning. Something of this importance comes up, and it affects the three affected tribes, we need to consider that each government be represented.

Senator EVANS. And I think the words are well taken. I thoroughly agree with you. The act clearly sets forth explicitly the Indian tribes as an affected and separately designated interest, just as they do the States.

And I think everytime we have a hearing where we are soliciting information from States and local governments we certainly, as a matter of course, tribal representatives and the information which can come from tribal representatives, on an equal footing with all the rest of them.

I will do everything I can to make sure that happens.

Mr. Burke.

Mr. BURKE. Yes. I would like to say that this deep geologic repository is probably the nearest thing to land ownership that you or I or anyone in this generation will see as Mr. Barros mentioned a minute ago. Wherever this repository is located, it will own that land.

And from human intrusion, you know, for generations and generation, so we are very concerned that it be a scientific and safe repository.

And we have dealt with being bought off for many generations. And certainly we do intend to be compensated if, in fact, the Congress in their infinite wisdom, determine that this deep geologic repository will be located at Hanford.

However, I think without our participation, as was mentioned by Mr. Jim, ensuring the public confidence in this repository, through consultation and cooperation, this cannot happen.

And so I feel that if it is scientifically the safest site, then there isn't much that I can say. However, I do want to have that opportunity to say it, if and when.

Senator EVANS. I'm sure there will be plenty of those opportunities before we get through this whole process.

I appreciate those. They are consistent and very useful answers. I have one other question, again, for each of the three of you.

As you know, the Nuclear Waste Policy Act calls for consistent consultation with the affected groups, and it clearly specifies that tribes are among those who should be consulted with.

As you also, I'm sure, know, the Congress in the appropriation act for this current year set aside $79 million of the amount that was to be utilized for further site characterizations, and said that it would be released only if there were a certification and a showing to the appropriate committees that the department had engaged in appropriate consultation and cooperation with these governments.

I would like to get briefly your opinions as to whether the Department of Energy in your view has met those standards at the current time, whether there has been a change in attitude since the time we passed that proposal.

How would you vote, I guess, if you were a Member of Congress, on whether to release that money.

Mr. Barros.

Mr. BARROS. Thank you, Mr. Chairman.

Since Congress passed that requirement, DOE has been dealing in what we feel has been in good faith with us. We have had problems in dealing with some of the other government agencies, but I think that this mandate should affect all agencies that deal with us on this issue.

And we have in the past dealt with the government in good faith, and I think we will continue to do so.

Senator EVANS. Mr. Jim?

Mr. JIM. Yes, Mr. Chairman. We have since the last two months sent to the Department of Energy our response on the consultation and cooperation issue under 117(c).

Our needs are in the C&C document, and that is as far as it has gotten so far, Department of Energy. Not to say that we are entirely disagreeing on everything with the Department of Energy.

We feel that we have a good rapport with the DOE in the Hanford field office, and with some people back here in the DOE office.

It's when there's confusion between headquarters and the field office that throws many of the monkey wrenches in not only the C&C but many of the technical matters.

For instance in the site characterization plan which will be out this summer, in the amount of about 10,000 pages, for a 90-day review, they—some of the field office representatives feel that it will justifiably set back the exploratory shaft drilling until at least 1989.

But on that same day, people back here in headquarters were saying they're going to try to get back on track. And I don't know whether that was assuming Congress would turn down the mission plan of Inman or not.

But they are now talking back to 1988, the drilling. And it's quite confusing. And again, it doesn't give them anymore credibility than they've already attained.

And incidentally, we do under our program have nationally and internationally recognized scientists working for us. And I too, along with these others, would cooperatively work with this Committee, if they so wished, to bring out many of the technical issues and questions that we may have.

Senator **Evans**. Mr. Burke.

Mr. **Burke**. Yes. The Umatilla tribe have been in negotiations of a consultation/cooperation agreement for two years, and to this point have gotten no further than the boilerplate kinds of things.

As far as issues are concerned, I guess we have negotiated two issues. One, that is Section 118 of the act, in which it would—there was a preliminary determination that the Indian tribes were not eligible to make an impact report. That was concluded in favor of the Indian tribes.

Also that portions of 117(c) of the act had been negotiated out through research of the act done by our attorneys, to the point where the places in 117(c) of the act where Indian tribes were not mentioned, it has been agreed that Indian tribes would be written into that portion of the act.

And as far as good faith negotiations, all the DOE has been in agreement of doing to this point is to restating the Nuclear Waste Policy Act and broadly interpreting it, you know, or narrowly interpreting it; and we wish to have it broadly interpreted, because of the trust responsibility that is afforded to the Indian people through our treaty of 1855.

And we, as I said earlier, initiated the consultation and cooperation negotiations, and we intend to honestly and openly and willingly try to negotiate an agreement.

I'm certain at this point that that will never happen, but nonetheless we are willing to negotiate.

Senator **Evans**. Thank you very much. Those are two of, I think, the key questions as we attempt to react, as I am sure we must here very shortly.

I would be astonished if the Department didn't send to us a proposal that they hope would release the $79 million. We have got to analyze and look at that very carefully, and your testimony has been helpful in that process.

We do thank you very much for your testimony here. It has been very helpful. And Mr. Jim, once again, you can be sure that for whatever I can do, there will be complete and total involvement of the affected Indian tribes and nations in this process on an equal footing with all of the governments, States and local governments, who all have a deep interest in some very important concerns, some evolving out of treaties, and some evolving out of the Constitution itself.

Thank you very much.

This hearing now is recessed subject to the call of the Chair.

[Whereupon, at 1:28 p.m., the hearing recessed, subject to the call of the Chair.]

77-690 : 1987 - 0 - 11

NUCLEAR WASTE PROGRAM

THURSDAY, MAY 7, 1987

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 2 p.m., in room SD-366, Dirksen Senate Office Building, Hon. J. Bennett Johnston, chairman, presiding.

OPENING STATEMENT OF HON. J. BENNETT JOHNSTON, A U.S. SENATOR FROM THE STATE OF LOUISIANA

The CHAIRMAN. The hearing will come to order.

I have a very extensive opening statement here, which I am sure people would like to hear every word of, so therefore I will read it. Except I understand you do want to get back to the Irangate hearings, and so I will put my statement therefore in the record and here from our good colleagues from the State of Maine about nuclear wastes.

Senator Cohen and Senator Mitchell, decide who is not only the senior, but the more eloquent among the two, and go ahead.

[The prepared statement of Senator Johnston follows:]

STATEMENT OF SENATOR J. BENNETT JOHNSTON

CHAIRMAN, COMMITTEE ON ENERGY AND NATURAL RESOURCES

HEARING ON S. 839
MAY 7, 1987

THIS AFTERNOON THE FULL COMMITTEE IS CONTINUING ITS HEARINGS ON S. 839, THE NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987. THIS BILL, WHICH I INTRODUCED WITH MY COLLEAGUE AND RANKING MINORITY MEMBER OF THE COMMITTEE SENATOR MCCLURE, WOULD OFFER A BENEFITS PACKAGE TO AFFECTED STATES OR INDIAN TRIBES HOSTING A REPOSITORY OR MONITORED RETRIEVABLE STORAGE FACILITY.

LAST WEEK, WE HEARD FROM TECHNICAL EXPERTS ON THE HEALTH AND SAFETY ISSUES INVOLVED IN THE DEPARTMENT'S REPOSITORY PROGRAM. WE LEARNED FROM THOSE WITNESSES THAT THE DEPARTMENT HAS DONE ADEQUATE TECHNICAL PREPARATION FOR SITE CHARACTERIZATION AT THE THREE CANDIDATE REPOSITORY SITES IN WASHINGTON, NEVADA, AND TEXAS. ACCORDING TO THESE WITNESSES, WE SHOULD PROCEED WITH SITE CHARACTERIZATION AT THESE SITES. THE NATIONAL ACADEMY OF SCIENCES ALSO TESTIFIED THAT THEY HAD NOT FOUND ANY EVIDENCE OF BIAS IN THE DEPARTMENT'S USE OF ITS RANKING METHODOLOGY, CONTRARY TO CHARGES MADE BY SOME OF THE STATES.

OBVIOUSLY, THE NUCLEAR WASTE PROGRAM HAS A SEVERE PROBLEM: THE STATES ARE RESISTING THE PROGRAM VERY STRONGLY. THIS PROBLEM OF THE NUCLEAR WASTE PROGRAM IS REAL, AND IT HAS TO DO WITH THE WAY THE PROGRAM OPERATES IN RELATION TO POLITICS. BUT THIS

PROBLEM IS NOT CAUSED BY POOR SCIENCE OR BY AN ABSENCE OF CONCERN IN DOE FOR TECHNICAL SUFFICIENCY. I HOPE THAT WE CAN FOCUS ON THE REAL CAUSES OF PROBLEMS WITH THE PROGRAM.

TODAY WE WILL HEAR FROM SOME OF OUR COLLEAGUES ON THEIR VIEWS OF S. 839. WE WILL ALSO HEAR FROM REPRESENTATIVES OF LOCAL GOVERNMENT ENTITIES NEAR THE CANDIDATE REPOSITORY SITE IN NEVADA.

S. 839, THE BILL SENATOR MCCLURE AND I HAVE INTRODUCED, WOULD ADD A NEW TITLE IV TO THE NUCLEAR WASTE POLICY ACT TO SET UP AN ALTERNATIVE PROCEDURE FOR CARRYING OUT THE REQUIREMENTS OF THE ACT. UNDER MY BILL, A STATE OR INDIAN TRIBE COULD RECEIVE BENEFITS AS GREAT AS $100 MILLION A YEAR IN EXCHANGE FOR ITS HELP IN SITING A REPOSITORY. A STATE OR INDIAN TRIBE COULD RECEIVE $50 MILLION FOR HELPING TO SITE AN MRS.

I BELIEVE THERE ARE ALREADY CERTAIN BENEFITS THAT WOULD BE AVAILABLE TO A STATE OR LOCAL COMMUNITY HOSTING A REPOSITORY OR MRS UNDER THE EXISTING ACT. THESE BENEFITS WOULD INCLUDE JOBS, CAPITAL IMPROVEMENTS, AND THE GROWTH OF SPINOFF INDUSTRIES.

S. 839 WOULD OFFER ADDITIONAL BENEFITS. I THINK A STATE OR INDIAN TRIBE THAT ENTERS INTO AN INCENTIVE AGREEMENT WITH THE DEPARTMENT UNDER THIS PROCEDURE WOULD HAVE MUCH TO GAIN.

BUT IF NO STATE OR INDIAN TRIBE CHOSE TO FOLLOW THIS PROCEDURE, ALL OF THE EXISTING PROVISIONS OF THE NUCLEAR WASTE POLICY ACT WOULD CONTINUE IN EFFECT. NOTHING ABOUT THE PROCESS WOULD CHANGE. THE SITING OF A REPOSITORY UNDER THE EXISTING ACT WILL CONTINUE WITH OR WITHOUT THIS LEGISLATION.

I WANT TO EMPHASIZE THAT THE TECHNICAL ASPECTS OF THE SITING PROCESS WILL ALSO GO FORWARD UNAFFECTED BY THIS LEGISLATION. S. 839 PROVIDES BENEFITS, BUT IT DOES NOT TRADE THOSE BENEFITS AGAINST SCIENCE, ENGINEERING, ENVIRONMENTAL PROTECTION, OR SAFETY.

YOU GET THE SAME TECHNICAL SITE DEVELOPMENT PROCESS AND THE SAME RIGOROUS NRC LICENSING REQUIRED BY THE NUCLEAR WASTE POLICY ACT WITH OR WITHOUT THE BILL. IN S. 839, WE DO NOT INTEND TO CHANGE ANY OF THE STANDARDS SET IN THE 1982 ACT. WE JUST INTEND TO PROVIDE BENEFITS. I HOPE MY COLLEAGUES WILL UNDERSTAND THAT.

STATEMENT OF HON. GEORGE J. MITCHELL, A U.S. SENATOR FROM THE STATE OF MAINE

Senator MITCHELL. We have decided that he is going to go second. He is both.

Mr. Chairman, thank you very much for holding this hearing. We thank you very much for accommodating the schedule that Senator Cohen and I—we do have to return to the Iran Committee hearings, and so ask that our full statements be placed in the record. We will make brief oral statements now.

I would like to present to you, Mr. Chairman, and the committee a statement of principles regarding implementation of the Nuclear Waste Policy Act adopted this month, May 1987, by ten Senators representing six Eastern States. Those principles are seven in number. They are brief and I would like to read them.

The first is that the primary purpose of the nuclear waste disposal program is to ensure public health and safety. Any site chosen for a nuclear repository must, at a minimum, meet health and safety criteria currently contained in the Nuclear Waste Policy Act and in the DOE and NRC siting guidelines and the EPA radiation protection standards. However, the siting guidelines should be improved to provide a more rigorous screening of potential sites.

Second, an independent body, including members proposed by the National Academy of Sciences and affected states and Indian tribes should review DOE's selection of sites.

Third, the arbitrary 70,000 metric ton cap should be lifted and work toward a second site should be indefinitely suspended.

Fourth, adoption of a realistic timetable for permanent disposal of high level wastes should be encouraged.

Fifth, states and Indian tribes should be provided with sufficient time and funding to review and provide comment on DOE recommendations and assessments. Current regulations do not provide sufficient time or funding.

Sixth, a state or Indian tribe that hosts a federal high level nuclear waste facility should be provided with a significant level of compensation from the nuclear waste fund. A state or Indian tribe also should receive some level of compensation during site characterization.

And seventh, a state or Indian tribe should maintain its right to judicial review under the Nuclear Waste Policy Act.

Mr. Chairman, I thank you again for your courtesy and I yield to my colleague, Senator Cohen, and present you with my full statement to be inserted in the record.

[The prepared statement of Senator Mitchell follows:]

Statement of Senator George Mitchell
Hearing on High-Level Waste
Senate Energy and Natural Resources Committee
May 7, 1987

Mr. Chairman, thank you for providing me with the opportunity to present my views on S. 839 and on the issue of high-level nuclear waste. I join with my colleagues today in presenting a statement of principles to you from second round States. These principles emphasize the need to dispose of high-level waste safely. They also emphasize the need for only one repository.

The 1982 Nuclear Waste Policy Act limits the capacity of the first high-level nuclear waste repository to 70,000 metric tons. But Secretary Herrington testified before the Environment and Public Works Committee last week that such a limit is not technically necessary. One repository could store all of our nuclear waste as safely as could two repositories.

Constructing only one repository would also save billions of dollars, as you, Mr. Chairman, stated in your remarks on introduction of S. 839, estimated costs of site characterization have increased from $40 million per site in 1982 to over $1 billion today. This figure is likely to increase over time. If only one repository were pursued, three fewer sites would be characterized at a savings of $3 billion. In addition, we would save as much as $10 billion in construction costs for a second repository.

It is ironic that the Federal government is spending $8 billion over five years to cleanup hazardous waste sites in the Superfund program, but DOE plans to spend three times that amount under the current Nuclear Waste Policy Act to create nuclear dump sites.

There is much precedent for Federal assistance to mitigate the impact of Federal projects. Federal impact payments were made to States and communities for decades in connection with Federal military installations to site but one example.

Of course, we cannot pretend that this Federal project is like other Federal projects. DOE is not planning a water project, a new highway, or a national park. DOE is seeking to build a repository for storage of highly radioactive nuclear waste for 10,000 years - longer than any one of our human institutions have lasted. This is legitimate cause for concern.

In addition, DOE's environmental safety record is poor, as hearings before the Government Affairs Committee have demonstrated. But those may be arguments for more Federal assistance, not for none at all.

For example, DOE will buy or lease private land years after it first begins to look for a site, but property values decline as soon as DOE announces it is considering a site in the area. This has already happened in Maine. Land values are depressed long before DOE actually purchases or leases the property, so it is unlikely that DOE will pay the full value of the property. Compensation payments can help make up the difference in land values.

Compensation, however, should not come at a price. Interest in compensation, or "incentive payments" as in S. 839, should not substitute for or outweigh safety concerns. Safety must come first. Any site chosen must be satisfactory on its merits. Similarly, States should not lose their right to seek judicial review simply because they are compensated for the imposition of a repository. While a provision barring judicial review might reduce the amount of litigation, it will not reduce opposition to the repository. It is this opposition, not the right of judicial review, that causes delay.

Payments should be contingent upon continued progress and increased upon receipt of the first shipment of waste. This can minimize conflict and delay without sacrificing the States' right of judicial review. To the contrary, our experience suggests that DOE may well make significant errors that warrant judicial review, even when the State remains interested in hosting a repository.

These are needed changes that could reduce the divisiveness of the nuclear waste issue. I hope we can develop a solution that assures safety while providing adequate compensation to the State that is selected for the nuclear repository.

I will continue to do all I can to oppose the search for a second repository -- a repository that is not and should not be authorized under the law precisely because it is not needed.

STATEMENT OF HON. WILLIAM S. COHEN, A U.S. SENATOR FROM THE STATE OF MAINE

Senator COHEN. Mr. Chairman, thank you very much, and I would ask the same privilege of allowing my statement to appear in the record and perhaps just offer a few comments in addition to that offered by Senator Mitchell.

I think the program that we have now, the waste disposal program, is looking more and more like an Edsel. The American public is simply unwilling to buy it.

We have an opportunity, rather than postponing this decision for 20 or 30 years and asking the next generation to face it, we have an opportunity now to go back and look again at the Act that you were so instrumental in helping to pass back in 1981-82, and to look at it to see whether or not it should not be revised along the lines that Senator Mitchell has articulated in terms of the seven points, at least take those salient factors into consideration.

It seems to me that your bill, the one that you have introduced, has a good deal of merit to it in terms of the compensatory aspect provided point number one articulated by Senator Mitchell is first taken into account; namely, the minimum safety requirements are adhered to.

It seems to me only in that context would the legislation providing for compensation—could it be expected to be acceptable. Otherwise, it appears some sort of a bribe is being offered to States to take something that is highly unsafe and undesirable, and that is just the beginning of the compensation.

So I know that the Senator from—the Chairman of the Committee contemplates that within that context, and I think it does make a good deal of sense.

We have found in our own State of Maine, for example, a good deal of disruption just by simply mentioning Maine as a possible site, the kind of dislocation that has already taken place. And to the extent that a second site or a site is found, a first site is found, that is going to cause some disruption to that State in any event.

So we feel that the principle of compensation does make sense within that context.

And I would hope, Mr. Chairman, that you would take into account these seven points. In my own State of Maine—and Senator Mitchell can attest to this—there is an element of incredulity in the state of Maine that the Department of Energy could even conceivably come up with one of the sites as a potential disposal area.

The site happens to be one of the major sources of water supply for the largest city in the entire State. It has some of the most beautiful lakes and mountains in the entire State. And yet my citizens, our citizens, find it unbelievable that the DOE would recommend that as a potential site.

So DOE does not have a great deal of credibility. We hope that these principles will be taken into account as we try to relook the provisions of the Nuclear Waste Policy Act of 1982.

I thank you for the opportunity to testify.

[The prepared statement of Senator Cohen follows:]

STATEMENT OF SENATOR WILLIAM S. COHEN

BEFORE THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

THURSDAY, MAY 7, 1987

MR. CHAIRMAN, I appreciate the opportunity you have provided me, and others representing states affected by our nuclear waste repository selection process, to testify before your Committee on the future of the waste program. Within this context, I would also like to comment on your legislation, S. 839, to offer incentives to the state which accepts a repository within its borders.

The members of this Committee know full well that the Department of Energy's waste disposal program is looking more and more like the Edsel. The American people just aren't buying it and we need to get back to the drawing board to come up with a program which enjoys public support. I fully realize the amount of work that went into the drafting of the Nuclear Waste Policy Act in 1982, and you should be proud, Mr. Chairman, of the effort you made to resolve this difficult issue.

But we have learned quite a bit in the five years since the law was passed, and there is nothing wrong in examining the additional information we have on hand now to determine how best to fine tune its provisions. Certainly we cannot ignore the need to address the waste disposal issue. Putting this decision off for another 20 or 30 years only passes a great burden on to another generation.

At the same time, it makes no sense to rush towards an imperfect solution which may exact an even greater toll on future generations. I sense a good deal of resistance to delaying the program by reopening the NWPA and reconsidering some of its provisions, but I would argue that the law has failed to live up to its promise and we ought to take advantage of this situation and try to make improvements.

In this regard, I have joined several of my Senate colleagues in endorsing a set of general principles or guidelines which we should apply to any consideration of changes in the law. The first and most important of these is the requirement that the public health and safety of our citizens must be the primary consideration in the siting of nuclear waste storage and disposal facilities. I would like to have the entire list of principles submitted for the record, along with my complete statement.

Mr. Chairman, you will note that one of the principles listed indicates our support for significant levels of compensation to the state or states which become the host of a repository. This concept of compensation parallels the incentives you have proposed in S. 839, and I believe such a concept is a sound one. To many of my constituents, however, a compensation proposal that ignores health and safety concerns and bases a waste disposal program principally on monetary considerations smacks of bribery. Without abandoning the compensation concept, we must restore public confidence in the waste disposal program and simply paying a state to accept a repository will not accomplish this important goal.

Perhaps I will be proven wrong, but I cannot conceive of a state that is willing to suspend a procedure through which the DOE can be held accountable for its actions, suspend its right to judicial review, and essentially give the DOE carte blanche to carry out the disposal program, in exchange for $100 million per year. That is an enormous amount of money, which virtually any state could put to good use. But is it a fair tradeoff for the potential health and safety problems that the host state may later face if compromised by the never-ending stream of money from Washington?

At the same time, the state which eventually is selected as the host of a waste repository should be compensated adequately for the risk it assumes to the health and welfare of its citizens and for the disruption which occurs during the characterization and construction stages. Judging from the initial chaos which occurred in Maine following the DOE's announcement that two sites were included in the draft Area Recommendation Report, I believe the same $100 million per year amount is not too much to offer in return for the impacts a nuclear waste repository would have on the state.

In my home state of Maine, there is considerable incredulity among its residents that DOE could select the Sebago Lake and Bottle Lake areas as potential host sites and claim that all technical requirements were met. Mr. Chairman, the Sebago Lake region is one of our largest tourist areas, encompassing one large and many smaller lakes, as well as many mountains and streams. Sebago Lake also serves as the drinking water supply for Maine's largest city, Portland, and surrounding communities. Yet the DOE claims the siting of a permanent underground nuclear waste disposal facility there would not threaten the health and safety of area residents. I must admit, I am incredulous myself.

The feeling in Maine is not just that the DOE has failed to apply technical requirements properly, but that the law itself is fundamentally flawed, if it permitted the DOE to select those two sites in Maine. I urge you, Mr. Chairman, to listen to the citizens affected by the DOE process and revisit the NWPA. Now is the time to do so, while the program is in limbo.

Mr. Chairman, I hope you will review seriously our proposed principles for the nuclear waste disposal program and work with us to resolve this difficult dilemma. We want to work with you, and we believe an improved law can be achieved without a lengthy delay.

Thank you again for providing me with the opportunity to testify before your Committee today. I look forward to working with the members of this Committee in pursuing a responsible resolution of this issue.

The Chairman. Thank you.

Both of you I am sure would like to engraft these seven principles on any legislation that moves here. S. 839, of course, does not go this far. But do I take it that both of you endorse 839 as far as it goes?

Senator Mitchell. To the extent that it provides for compensation to minimize the impact of this federal facility in a state, we do. We believe there is also——

The Chairman. It also suspends looking for the eastern repository once the conditions of S. 839 are met.

Senator Mitchell. Yes.

The Chairman. You do not object to that, do you?

Senator Mitchell. Well, we believe that that suspension should occur prior to the reaching of those conditions. We believe that that stands on its own.

The only point that we would make is that we encourage the—and I am sure you intended this, you and Senator McClure—the standard of safety being the first and foremost consideration, and also that the states retain their right of judicial review.

But the principle of compensation, the thrust is certainly one with ample precedent under federal law and something which I think is going to be necessary in this case, and we do support that.

The Chairman. Now, Senator Mitchell, we had testifying here the Nuclear Regulatory Commission and the National Academy of Sciences, both of which have teams that have been monitoring the Department of Energy and both of which said that, while every step that the Department of Energy has taken they did not necessarily endorse every step with all of its attendant rhetoric, that they see no reason why the bill should not continue to be implemented, that the characterization should not proceed; that the site selection has been perfectly safe up to this time.

You do not have any information to the contrary on that with respect to the three western sites, I take it, do you?

Senator Mitchell. No, we do not with respect to the western sites.

The Chairman. Your concern with respect to these eight sites and safety and all of that and your statement, Senator Cohen, about this being an Edsel and about bad administration has to do with the eastern sites, does it not?

Senator Cohen. That is correct, the way in which the eastern sites were treated, the process by which they were selected, and the fact that there was very little opportunity to really comment in depth on the proposal by the DOE.

The Chairman. Your comments did not mean to cast aspersions on the Department of Energy and the enforcement of the Act with respect to the western sites or the monitored retrievable storage site?

Senator Cohen. We thought we would defer that to the western states.

Senator Mitchell. But I think it should be said, Mr. Chairman, to answer your question fully and with candor, that if the performance of the Department of Energy in the West is anything like its performance in the East, it would apply. Now, we do not have the same specific information because we are not involved at that point.

The Chairman. Do you have any information at all to contradict that of the Academy, the National Academy of Sciences, and the Nuclear Regulatory Commission?

Senator Mitchell. With respect to the western sites, no. And Senator Reid, we will defer to him on that.

The Chairman. Thank you very much.

Senator Mitchell. Mr. Chairman, I guess Senator Sasser is not here.

Senator Sasser. Yes, I am.

The Chairman. He is very quiet.

Senator Mitchell. I want to thank him for graciously permitting Senator Cohen and I to go before him. He actually was the first scheduled witness and we are very grateful to him.

The Chairman. We have moved him to the back of the line.

Thank you.

Next we do have Senator Jim Sasser from the State of Tennessee.

Senator Sasser. Mr. Chairman, should we proceed?

The Chairman. You may. We are glad to have you. And Senator Reid, we are delighted to have you as well.

Senator Reid. Thank you very much. I am ready whenever you are. I am in no hurry.

STATEMENT OF HON. JAMES R. SASSER, A U.S. SENATOR FROM THE STATE OF TENNESSEE

Senator Sasser. Mr. Chairman and members of the committee, I appreciate the opportunity to appear here this afternoon, and I would like once again to focus my remarks before this committee on the monitored retrievable storage facility. Quite frankly, Mr. Chairman and members of the committee, I am troubled by where we are headed with the MRS.

We are seeing in my view a mad rush to make the monitored retrievable storage facility the only working element of the Nuclear Waste Policy Act, instead of reasoned analysis of the pros and cons of the MRS. We see, I fear, a rush on the part of the Department of Energy towards the most politically expedient path for the disposal of nuclear waste.

Efforts to make the MRS the de facto final and permanent repository fly in the face of the mounting evidence against moving forward with the whole concept of the monitored retrievable storage site. Put simply, Mr. Chairman and members of the committee, the case simply has not been made for the MRS.

Indeed, we see more and more clearly that the Department of Energy has not done an accurate assessment which would allow Congress to make an informed judgment on whether or not we do indeed need an MRS. And this situation is compounded by the attitude reflected in last week's testimony before this committee.

Upon reading the news accounts of the committee hearings, several members of the committee made it clear that they believe the MRS in Tennessee is a done deed. The question I am left with, Mr. Chairman and members of the committee, is why?

Why in the world are we rushing to build this facility, which is yet to be justified? Perhaps it is because as far as the Department of Energy is concerned the monitored retrievable storage site stands as the most politically expedient avenue of disposing of nuclear waste.

Well, I would hope, Mr. Chairman, that you and the members of this committee would agree that it is a grave mistake to let DOE move along the path of political expediency and let that take the place of a reasoned, well thought out policy.

We have already seen an enormous erosion in the public's faith in the Government's ability to safely dispose of nuclear waste. Well, let us begin with the need for the MRS. Several weeks ago, my colleague Senator Gore and I wrote the Nuclear Regulatory Commission and asked them why they failed to address the question of the need for the MRS in their report to the Secretary of Energy.

The Nuclear Regulatory Commission responded to our questions last week. Unfortunately, the Nuclear Regulatory Commission still refuses to take a position on the question of need for the MRS.

The NRC does make it clear that the MRS is not needed for the protection of public health and safety. I think that is a critical point to keep in mind as we debate this whole question of the MRS. According to the NRC, it is not needed to protect the public health and safety.

The NRC did indicate that they do see regulatory benefits in the MRS. Yet, even with these regulatory benefits, the NRC shies away from taking a definitive stand on the need for an MRS.

They leave that determination, the determination of need, up to the Department of Energy. Well, there are two problems, I think, with this approach. First, it abrogates what I view to be as the NRC's statutory obligation to assess the need for the MRS.

And second, it places responsibility for assessing the need for the MRS with an agency which has failed to carry out that task.

A draft of a General Accounting Office study on the MRS speaks to the question of need. Let me quote from the conclusion set forth in the draft GAO report. Quoting from the GAO report:

"DOE has not demonstrated that the MRS is needed to safely manage spent fuel or that the benefits attributed to the MRS could not be achieved through other means."

This is not the only shortcoming that the General Accounting Office found in DOE's MRS proposal. The draft report correctly points out that for Congress to weigh the merits of an MRS, we ought to have sufficient data available to compare a nuclear waste management system with and without the MRS.

The draft report finds that the DOE has not developed alternatives to the MRS to permit such a comparison. Quoting further from the GAO report: "DOE's proposal does not, therefore, provide the Congress with an adequate basis to make an informed decision on whether the MRS should be integrated into the nuclear waste management system."

And as if this were not enough, the General Accounting Office also found the MRS proposal lacking on the question of cost. Again I quote from the draft report: "DOE has not fully developed or reported important MRS cost elements, such as state and local financial aid to mitigate MRS impact. DOE does not plan to determine these costs until after the Congress has approved the proposal."

So the message is clear. Congress does not have adequate information to make an informed decision on the MRS. We should not be moving forward on the MRS proposal until these concerns are addressed.

Yet, the state of Tennessee is told that the MRS is coming. Mr. Chairman, I think such a policy is simply irresponsible and self-defeating. With DOE failing to provide Congress an adequate basis to make an informed decision on the MRS, why are we so eager to accept the MRS proposal?

Why are we so willing to ignore these critical shortcomings? Mr. Chairman, it is not too late to put an end to this short-sighted approach to a very serious problem. We can and should demand that the Department of Energy adequately address the concerns raised in the GAO report and by those of us who seek to bring some reason to this process.

An issue as important as disposal of nuclear waste should not be driven by political expediency. I urge the members of this Committee to reject such a course and return to a balanced, reasoned approach to implementing the Nuclear Waste Policy Act.

Mr. Chairman, that concludes my statement and I would be pleased to try to answer any questions that you or the committee might have.

[The prepared statement of Senator Sasser follows:]

STATEMENT OF SENATOR JIM SASSER

COMMITTEE ON ENERGY AND NATURAL RESOURCES

MAY 7, 1987

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I APPRECIATE THE OPPORTUNITY TO BE WITH YOU TODAY. I'D LIKE TO ONCE AGAIN FOCUS MY REMARKS BEFORE THIS COMMITTEE ON THE MONITORED RETRIEVABLE STORAGE FACILITY. QUITE FRANKLY, MR. CHAIRMAN, I AM VERY TROUBLED BY WHERE WE ARE HEADED WITH THE MRS. WE ARE SEEING A MAD RUSH TO MAKE THE MONITORED RETRIEVALBE STORAGE FACILITY THE ONLY WORKING ELEMENT OF THE NUCLEAR WASTE POLICY ACT. INSTEAD OF REASONED ANALYSIS OF THE PROS AND CONS OF THE MRS, WE SEE A RUSH BY THE DEPARTMENT OF ENERGY TOWARDS THE MOST POLITICALLY EXPEDIENT PATH FOR DISPOSAL OF NUCLEAR WASTE.

EFFORTS TO MAKE THE MRS THE DE FACTO PERMANENT REPOSITORY FLY IN THE FACE OF THE MOUNTING EVIDENCE AGAINST MOVING FORWARD WITH THE MRS. PUT SIMPLY, MR. CHAIRMAN, THE CASE HAS NOT BEEN MADE FOR THE MRS. INDEED, WE SEE MORE AND MORE CLEARLY THAT NOBODY IN THE GOVERNMENT HAS DONE AN ADEQUATE ASSESSMENT WHICH WOULD ALLOW CONGRESS TO MAKE AN INFORMED DECISION ON THE MRS.

THIS SITUATION IS COMPOUNDED BY THE ATTITUDE REFLECTED IN LAST WEEK'S TESTIMONY BEFORE THIS COMMITTEE. SEVERAL MEMBERS OF THE COMMITTEE MADE IT CLEAR THAT THEY BELIEVE THE MRS IN TENNESSEE TO BE A DONE DEED.

THE QUESTION I AM LEFT WITH MR. CHAIRMAN IS WHY? WHY ARE WE RUSHING TO BUILD THIS FACILITY WHICH HAS YET TO BE JUSTIFIED? PERHAPS IT IS BECAUSE AS FAR AS THE DEPARTMENT OF ENERGY IS CONCERNED THE MRS STANDS AS THE MOST POLITICALLY EXPEDIENT AVENUE OF DISPOSING OF NUCLEAR WASTE.

MR. CHAIRMAN, I WOULD HOPE YOU AND THE MEMBERS OF THIS COMMITTEE WOULD AGREE THAT IT IS A GRAVE MISTAKE TO LET POLITICAL EXPEDIENCY TAKE THE PLACE OF REASONED, WELL THOUGHT OUT POLICY. WE HAVE ALREADY SEEN A GREAT EROSION IN THE PUBLIC'S FAITH IN GOVERNMENT'S ABILITY TO SAFELY DISPOSE OF NUCLEAR WASTE.

WHAT FACTS AM I TALKING ABOUT, MR. CHAIRMAN? LET'S BEGIN WITH THE NEED FOR THE MRS. SEVERAL WEEKS AGO, MY COLLEAGUE

SENATOR GORE AND I WROTE THE NUCLEAR REGULATORY COMMISSION AND ASKED THEM WHY THEY FAILED TO ADDRESS THE QUESTION OF THE NEED FOR THE MRS IN REPORTS TO THE SECRETARY OF ENERGY. THE NRC RESPONDED TO OUR QUESTIONS LAST WEEK.

UNFORTUNATELY, THE NRC STILL REFUSES TO TAKE A POSITION ON THE NEED QUESTION. HOWEVER, THE NRC MAKES IT CLEAR THAT THE MRS IS NOT NEEDED FOR THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY. I THINK THAT IS A CRITICAL POINT TO KEEP IN MIND AS WE DEBATE THE MRS-- IT IS NOT NEEDED TO PROTECT THE PUBLIC HEALTH AND SAFETY.

THE NRC DID INDICATE THEY SEE REGULATORY BENEFITS IN THE MRS. YET, EVEN WITH THESE BENEFITS, THE NRC SHIES AWAY FROM TAKING A DEFINATIVE STAND ON THE NEED FOR THE MRS. THEY LEAVE THE DETERMINATION OF NEED UP TO THE DEPARTMENT OF ENERGY.

THERE ARE TWO PROBLEMS WITH THIS APPROACH. FIRST, IT ABROGATES WHAT I VIEW AS THE NRC'S STATUTORY OBLIGATION TO ASSESS THE NEED FOR THE MRS. SECOND, IT PLACES RESPONSIBILITY FOR

ASSESSING THE NEED FOR THE MRS WITH AN AGENCY WHICH HAS FAILED TO CARRY OUT THAT TASK.

A DRAFT OF A GENERAL ACCOUNTING OFFICE STUDY ON THE MRS SPEAKS TO THE NEED QUESTION. LET ME QUOTE FROM THE CONCLUSIONS SET FORTH IN THE DRAFT GAO REPORT. "DOE HAS NOT DEMONSTRATED THAT THE MRS IS NEEDED TO SAFELY MANAGE SPENT FUEL OR THAT THE BENEFITS ATTRIBUTED TO THE MRS COULD NOT BE ACHIEVED THROUGH OTHER MEANS."

THIS WAS NOT THE ONLY SHORTCOMING THE GAO FOUND IN DOE'S MRS PROPOSAL. THE DRAFT REPORT CORRECTLY POINTS OUT THAT FOR CONGRESS TO WEIGH THE MERITS OF AN MRS, WE OUGHT TO HAVE SUFFICIENT DATA AVAILABLE TO COMPARE A NUCLEAR WASTE MANAGEMENT SYSTEM WITH AND WITHOUT THE MRS. THE DRAFT REPORT FINDS THAT DOE HAS NOT DEVELOPED ALTERNATIVES TO THE MRS TO PERMIT SUCH A COMPARISON. LET ME QUOTE FURTHER, "DOE'S PROPOSAL DOES NOT, THEREFORE, PROVIDE THE CONGRESS WITH AN ADEQUATE BASIS TO MAKE AN

INFORMED DECISION ON WHETHER THE MRS WHOULD BE INTEGRATED INTO THE NUCLEAR WASTE MANAGEMENT SYSTEM."

AS IF THIS WERE NOT ENOUGH, THE GAO ALSO FOUND THE MRS PROPOSAL LACKING ON THE QUESTION OF COST. AGAIN, I QUOTE FROM THE DRAFT REPORT, "DOE HAS NOT FULLY DEVELOPED OR REPORTED IMPORTANT MRS COST ELEMENTS, SUCH AS STATE AND LCOAL FINANCIAL AID TO MITIGATE MRS IMPACTS. DOE DOES NOT PLAN TO DETERMINE THESE COSTS UNTIL AFTER THE CONGRESS HAS APPROVED THE PROPOSAL."

THE MESSAGE IS CLEAR. CONGRESS DOES NOT HAVE ADEQUATE INFORMATION TO MAKE AN INFORMED DECISION ON THE MRS. WE SHOULD NOT BE MOVING FORWARD ON THE MRS PROPOSAL UNTIL THESE CONCERNS ARE ADDRESSED. YET, THE STATE OF TENNESSEE IS BEING TOLD THAT THE MRS IS COMING.

MR. CHAIRMAN, I SUBMIT SUCH A POLICY IS SIMPLY IRRESPONSIBLE. WITH DOE FAILING TO PROVIDE CONGRESS WITH AN ADEQUATE BASIS TO MAKE AN INFORMED DECISION ON THE MRS, WHY ARE

WE SO EAGER TO ACCEPT THE MRS PROPOSAL? WHY ARE WE SO WILLING TO IGNORE THESE CRITICAL SHORT-COMINGS? HAS THE DEPARTMENT OF ENERGY'S POLITICAL EXPEDIENCY REPLACED EVEN-HANDED DECISION MAKING?

MR. CHAIRMAN IT IS NOT TOO LATE TO PUT AN END TO THIS SHORT-SIGHTED APPROACH TO A VERY SERIOUS PROBLEM. WE CAN AND SHOULD DEMAND THAT THE DEPARTMENT OF ENERGY ADEQUATELY ADDRESS THE CONCERNS RAISED IN THE GAO REPORT AND BY THOSE OF US WHO SEEK TO BRING SOME REASON TO THIS PROCESS. AN ISSUE AS IMPORTANT AS DISPOSAL OF NUCLEAR WASTE SHOULD NOT BE DRIVEN BY POLITICAL EXPEDIENCY. I URGE THE MEMBERS OF THIS COMMITTEE TO REJECT DOE'S PREFERRED COURSE AND RETURN TO A BALANCED, REASONED APPROACH TO IMPLEMENTING THE NUCLEAR WASTE POLICY ACT.

The CHAIRMAN. Thank you, Senator Sasser, for an excellent statement.

Senator Sasser, there is currently raging litigation between Texaco and Pennzoil, which I am sure you are familiar with. And it seems to me that Pennzoil got a judgment of about $9 billion against Texaco for—I forget the exact factual situation.

But I know one of the lawyers in that case very well, and he says that there was a colossal mistake made by the lawyers, maybe ever in the annals of American jurisprudence, because the lawyers from Texaco, trying to be so—first of all, being confident of winning, incorrectly confident of winning, and secondly not wanting to weaken their case, put in no evidence whatsoever as to the amount of damages.

They let—the only evidence in that case that was presented was presented by Pennzoil, and that said the case was worth, I think, $7 billion. Well, sure enough, the jury decided that Texaco was liable and they then relied upon the only evidence in the case, which was that put in by Pennzoil, and they ended up getting stuck for $9 billion.

And if only they had thought during that time when they were confident of winning, but when they were not absolutely sure of it, if they had put in their evidence, the lawyers tell me they could have held that damage assessment down to a billion dollars.

Now, I do not want Tennessee or Nevada or any of my friends similarly situated who, being confident that their state is not going to be picked, fail to take advantage of that which is available to them.

And your evidence that you can put into the record right now has to do with S. 839, which would give to whatever state—it may not be Maine—gets an MRS, if in fact one is proposed—and I believe the law requires it, but I will speak about that in a moment.

But some state—that waste is going to be put somewhere. Would you not agree with me that, wherever that waste is finally put, that it would be a good idea to give to those states a recompense for the perceived harm? And note, I say "perceived harm" as opposed to real harm, because the experts who have testified before this committee say that there is absolutely no possibility of any harm from either an MRS or a repository.

So would you not agree with me that it would be a good idea for whichever state gets that to have some recompense?

Senator SASSER. Yes, I do, Mr. Chairman. I have publicly applauded the amendment that you have introduced, and I think that what you are seeking to do with this amendment is precisely the course that should have been taken by the Department of Energy to begin with.

And that is to try to attract a community or a state that would actually actively seek the location of the MRS or a final repository within their jurisdiction. That is precisely the opposite approach that was taken in this instance by the Department of Energy.

They simply went out and selected a site, and their view was, we are going to put this MRS in your state whether you like it or not, and you do not have anything to say about it. And that is precisely the track that we are on now.

Now, I would say to you, Mr. Chairman, that the analogy between the Pennzoil and the Texaco case and the state of Maine, my state of Tennessee, is not quite valid, because I feel at the present time that we have got at least a 50-50 chance that the MRS is going to come to Tennessee.

In spite of all of my efforts, in spite of the efforts of every member of the Tennessee Congressional delegation, in spite of the opposition of the governor of our state, in spite of a resolution that was passed without a single dissenting vote, I believe, in both houses of the state legislature, in spite of the fact that public opinion polls show that approaching 90 percent of the people of that state oppose the MRS being sited there, I would say to you today that I am aware that there is at least a 50-50 chance that it will be coming to the state of Tennessee.

Now, I am going to resist that to the end. And I have great confidence in this Committee and in its Chairman, and I think that we can, taking a reasonable approach, convince this Committee and this Chairman, number one, there is grave doubt as to whether we really need an MRS, and number two, that even if we need it, let us do not put MRS in a highly populated site in one of the most beautiful areas of this country, adjacent to the most traveled national park, the most visited national park in the country, and not far away from the Great Smoky Mountains.

That is simply not the place to put it.

Now, the chairman is going down the right track, I think. I think what he seeks to do with his amendment is to lay out an enticement for states to say, if you will take the MRS, if you will take this waste from the nuclear reactors all across this country, here is what the national government is willing to do for you in exchange for that and in gratitude for it.

And I daresay that there are going to be some states that will come forward and say yes.

The CHAIRMAN. There are not any states that have said that officially yet, but I can tell you that there is some active interest from some communities.

Senator SASSER. If I might interrupt the Chairman, Mr. Chairman, you are doing precisely what should have been done on the front end of this thing. And if the Department of Energy had had the wisdom to do what you seek to do with this amendment, then we would not have this problem today with the MRS in my judgment.

The CHAIRMAN. Of course, I might say the Department of Energy did not have the legislative authority to propose $50 million a year for an MRS. In fact, that does not exist yet. It exists only in S. 839.

So they did not really have that authority and, you know, I cannot speak for their community relations. But we can speak for—at least we can call witnesses here as to how they have done technically.

And what the National Academy of Sciences and the NRC said is that technically they have done a very adequate job, certainly with respect to the repository; that most of those questions that were raised can be resolved only by characterization.

Now, that does not deal with the MRS. Let me say a couple things about the MRS. There are all kind of views about the MRS.

This committee and in fact the entire Senate in, I believe it was, 1980 passed a Nuclear Waste Policy Act—it did not become law because it did not clear the House—which provided for an MRS alone or a series of MRS' alone, with no permanent repository, on the basis of scientific judgments that that was a good and adequate and the best way to deal with the problem.

The House felt differently, and in the next Congress we passed the Nuclear Waste Policy Act providing for a dual track, for both an MRS and a repository. And DOE really was not given any choice.

Under the act, DOE was mandated on or before June 1st, 1985—and they were late at that; part of that was the lawsuit and part of it was that they were just late—to submit to Congress a proposal for the construction of one or more monitored retrievable storages, and each such facility shall be designed, and it says how that design shall be.

And it further states that it shall be sufficiently detailed to, I believe it says, to go to contract. In any event, it provides for a detailed submission, site specific. And so DOE did not have any choice as to that. The law requires that they submit that proposal to the Congress.

I might add that NRC does believe, and in fact I think in a letter to you of April 27 they point out certain operational benefits, and then they say, in addition to the operational benefits, MRS presents certain regulatory benefits, particularly with respect to resource expenditure. And it also points out that it would permit fewer designs for handling the storage, fewer sites and methods for spent fuel.

That is because, as they point out in their letter, that today in effect what you have is a whole series of MRS', over 50 MRS' around the country that are temporarily providing for interim storage of spent fuel.

We have also gotten testimony to that respect from the utilities, who say it would be a good thing from their standpoint, not only from safety but from the standpoint of saving money.

And we have heard about this draft report from GAO, but I must say GAO has—as far as I am concerned, they have not been of much help in this whole area. They have not been forthcoming to us, and their draft report, the copy which I have seen, is based upon totally faulty information.

They did not—I mean, they were representing that the utilities were opposed, when in fact the utilities have testified right here that they were for that.

So I think that there is a strong feeling on this Committee that an MRS is required and should be built. And of course, it is not our job to site an MRS. That is entirely up to the DOE.

And we want to be sure that that process is as depoliticized as possible. I say "as possible" because DOE has made one really big mistake, and that was to suspend the operation of the Act with respect to an eastern repository. Now that is back on track.

And it is not a question of whether we should have one or not. It is a question of following the law explicitly and punctiliously. I mean, that is what DOE must do. And to the extent that anything is suspended, any requirement of the law, then it gives the appearance of possible politicization of the law, and we obviously do not want that at all.

And this committee so far as I know will not attempt to—will do its absolute everything possible to keep any politics from this very difficult process, because no state that I am aware of, at least not yet, at least not until S. 839 passes, wants the MRS.

I hope it will be different when S. 839 passes. But as of right now, no states do want it or no states have come forward.

Senator Sasser, I appreciate very much your testimony and your endorsement of the principle of S. 839. I can well understand Tennessee's opposition, and I would hope that if Tennessee is chosen and an MRS is built, that we can have cooperation by the MRS and by this committee and by all other federal agencies to the maximum extent possible so as to reassure the people of Tennessee that this will be done entirely in an environmentally acceptable way and consistent with the highest standards of health and safety.

Senator SASSER. I thank you, Mr. Chairman.

And if I could ask the chairman's forbearance for just a moment to make one further statement.

The CHAIRMAN. Indeed.

Senator SASSER. Mr. Chairman, in selecting the site of an MRS the fact was not lost on this Senator and I think the over 4 million citizens of the State of Tennessee that in selecting the three proposed sites, that all three of those sites were in the State of Tennessee.

This, taken in conjunction with the fact that the Department of Energy abandoned its efforts initially for an eastern repository, I think has robbed the Department of Energy of any credibility as far as the citizens of my State are concerned.

They view this whole proposition and proposal as a political exercise. I think that is most unfortunate, and I agree with the chairman that we do desperately need a Nuclear Waste Policy Act in this country. But I think it must be one that is administered in such a way that the people believe that it is not being dictated by political expediency.

And by the actions of the Department of Energy in dealing with the MRS site selection and by the abandonment initially of the plans for an eastern repository, which is widely believed to have been politically motivated, the Department of Energy has robbed itself of any credibility.

And I would hope that we could suspend this whole procedure until the chairman's amendment has been acted upon by the Congress favorably, and then we could ascertain if there are any volunteers among the 50 states who would be willing to take this nuclear waste.

I think in the long run that would be the best public policy, because it would indicate to citizens of this country everywhere that we are not going to cram this thing down their throats. And I think it would be the best possible public policy for the nuclear industry, which is today besieged, which is today mistrusted, and which today is feared by a large portion of our population if polls are to be believed.

I thank the chairman for his forebearance in letting me appear here today.

The CHAIRMAN. Thank you very much, Senator Sasser. And I hope we can pass S. 839 quickly and let it be in operation, and maybe we will get someone who wants the MRS.

Senator HECHT. Mr. Chairman, can I make one statement?

The CHAIRMAN. Indeed.

Senator HECHT. You mention there has not been a demonstrated need for an MRS. I do not feel that way at all. I think the policy of France and the excellent way they handle their nuclear waste proves that there is a definite need.

But what France also proved is that you have to let the spent fuel cool down, to use an expression. And yesterday I introduced legislation not to consider a deep level repository until after the nuclear waste has been stored and cooled for 50 years.

They demonstrated without any doubt you have to let it cool down. So now the next question is, where is the best location to site an MRS facility? And I feel in my own mind there might be several suitable location within the eastern area, because that is where the nuclear powerplants are.

If there were several MRS facilities on the east coast, how would you feel about having one MRS facility in your state?

Senator SASSER. Well, I would say first, Senator Hecht, that according to the information which I have seen, there is no need for an MRS, that there is plenty of space left at the present time for onsite inspection—I mean onsite storage; that there is methods of reracking and restacking the spent rods in such a way that we do not need to go directly to an MRS.

That would be my view on it. And the fact is not lost on me that when the Nuclear Regulatory Commission is asked about the MRS, they state: Yes, there would be regulatory advantages to it, which you would expect a regulatory agency to say, if they can get it all in one place. But they never say, even though they are specifically asked to, they never addressed the need for an MRS. The NRC does not.

And it is my view, I would say to you, that I do not think we need an MRS. My view would not change if we had MRS' in all of the 50 states of the Union. I just do not think we need one, or 50 of them.

At some juncture, we are going to have to have a final repository. There is no doubt about that. But I do not think we need this interim process.

Senator HECHT. The final repository, though, I think there are going to be a few questions about that, such as what all do we put down into the ground at that final time, and do we reprocess our civilian spent fuel. Do you have any thoughts on that?

Senator SASSER. I am not sure I understand your question.

Senator HECHT. For the final repository and the size of the repository, how are we going to handle the nuclear waste that we put into the repository?

Presently, we handle civilian waste one way and military waste another way. We reprocess our military waste, but not our civilian waste, whereas in the European countries—France in particular—they reprocess their spent fuel and dispose of all their nuclear waste the same way, which is again long after it is cooled down.

So I would say we are quite a ways away from that final repository at this stage. And many of us feel that an MRS is the safest way to store the fuel for the time being.

Senator SASSER. Well, I would opt out for on-site storage myself when we get to the final repository. But reasonable people can disagree on that question and have.

The CHAIRMAN. We will be right back.

[Recess.]

The CHAIRMAN. Senator Humphrey, welcome to the committee. I am sorry we have kept you waiting, and please proceed.

STATEMENT OF HON. GORDON J. HUMPHREY, A U.S. SENATOR FROM THE STATE OF NEW HAMPSHIRE

Senator HUMPHREY. First, Mr. Chairman, would you include in the record a letter from a number of Senators who were in the second states, along with a copy of the statement of principles earlier alluded to in this hearing?

The CHAIRMAN. Yes, indeed we will put those in the record.

Senator HUMPHREY. Mr. Chairman, I felt all along and increasingly that some new kind of approach to dealing with nuclear waste is needed, some new, innovative and creative approach. And I believe that in concept you have offered one in your bill, S. 839.

I agree with the concept of that bill. There are a number of technical points that concern me and I would like to address those just very briefly, if I may.

First, the bill suggests that a site's quality in terms of its ability to isolate waste is secondary to a state or a tribe's willingness to accept a site. Given that spent fuel and high level waste will remain dangerously radioactive for thousands of years, it is imperative that the long term effect on public health and safety govern any decision regarding the siting.

In other words, what I am saying is that the incentive is a great idea, but a state must first qualify by virtue of its geology and other technical considerations as a repository before, it seems to me before, the incentive provision comes to bear.

Secondly, I am concerned with the legislation's requirement that states or tribes waive their right to judicial review. I wonder if that, apart from the legal question, I wonder if on a political level that provision in the bill does not weaken the chances of a state or a tribe seeking to participate in the program.

The CHAIRMAN. If I may respond to that, the idea of this compensation is that it would greatly speed up the process and, in the case of the repository, do away with the requirement of characterizing two other sites, which would save a couple of billion dollars.

Now, you do waive your right to go to court. But frankly, we think you have a better procedure scientifically to ensure safety through the commission, which is the review commission which is created under S. 839. Then you really put it in the hands of the scientists, rather than in the hands of the lawyers.

And I think we have a fixation in this country on nuclear matters, as well as other matters—and I say this as a former practicing lawyer—to always go to court, to think that the lawyers and the courts and briefs and delays and trial dates and hearings and depositions are the answer to all questions.

And I think that decidedly they are not the answer to scientific questions, that you can much better do that by letting the scientists decide the scientific questions. That is why I think nuclear power is no safer in this country than it is in France or Sweden or other countries. I know it is much more expensive.

One reason is it takes 12 to 15 years to build a nuclear plant here; it takes 4½ in Sweden and a similar time in Japan and elsewhere. And all of that has not increased safety; it has increased litigation, briefs and hearings and depositions.

Senator HUMPHREY. Well, democracy has its drawbacks, there is no question.

The CHAIRMAN. That is all we are waiving. We are waiving access to the lawyers, not access to getting heard.

Senator HUMPHREY. Well, I understand. But I am just putting myself in the shoes of a Governor contemplating an inquiry about this program and thinking, what are my constituents going to say if a condition of seeking these incentive payments is that we waive forever our rights to judicial review, even if the Feds welch on their side of the bargain?

The CHAIRMAN. They would have the right. If the Federal Government welches on its agreement, then you could sue under the agreement. What we are saying is you would surrender your right under the Nuclear Waste Policy Act with respect to veto and those kinds of things.

Senator HUMPHREY. Well, it is something that needs to be clarified.

Let me say finally that my last concern with the bill is that I object to the bill's treatment of the second repository program. Under the bill, the second site program would be suspended only if incentive agreements were reached on both a repository, a first repository and an MRS facility.

I will reiterate the obvious once again, briefly, that there is no reason to have a second site. The 1986 decision to postpone indefinitely the search was based on lower than anticipated waste volumes, as you know well. Those considerations remain.

Nothing has changed, and there is no technical reason for two repositories. The 70,000 metric ton cap is, as you know, a political cap. And inasmuch as I know that you are attracted to scientists and scientific solutions, I am hopeful that you will support lifting that cap so that no second repository is needed whatever.

But let me close by again complimenting the Chairman. It is a good idea. I wish it had been mine. Indeed, I had thought of it. So I guess I should say I wish I had thought to draft it into a bill. It makes good sense.

It provides an incentive, and I think it is a creative, innovative solution that has a much better chance of bringing into operation a responsible storage program, provided that the safety criteria must be met by any tribe or state first, than any other solution so far proposed.

And I wish you well and urge you to speed it up and get this thing into law.

The CHAIRMAN. Well, thank you very much, Senator Humphrey. I appreciate your endorsement and I look forward to your help in getting it passed.

And let me say, it may not be perfect and it may not go all the way toward what I know the easterners very strongly feel, but I urge you to come along with sort of the political balance we have in the bill, because I think if we tried to go further—and indeed, one first draft did go a little further in favor of the East than this draft.

But sort of the political balance, the geographical balance of saying you have got to have—that you can suspend that once you get the incentive agreements in place, is a lot better than the present law. And I hope you can support it on that basis.

But in any event, I appreciate your kind comments about the bill and I hope we can work together.

Senator HUMPHREY. Well, I hope so, too. I am not issuing a blanket endorsement here. I want to reiterate, I do have a couple of important concerns with the bill, and I will reciprocate by saying that I hope that we can work together and maybe improve it a little bit.

The CHAIRMAN. Thank you very much.

Senator HUMPHREY. Thank you.

[The prepared statement of Senator Humphrey follows:]

TESTIMONY OF SENATOR GORDON J. HUMPHREY

MAY 7, 1987

COMMITTEE ON ENERGY AND NATURAL RESOURCES

MR. CHAIRMAN, THANK YOU FOR THE OPPORTUNITY TO PARTICIPATE.

I COMMEND THE COMMITTEE LEADERSHIP'S EFFORTS TO IDENTIFY A WAY TO RIGHT A PROGRAM WHICH, IN THE WORDS OF SECRETARY OF ENERGY JOHN HERRINGTON, IS "STAGGERING." IT SEEMS THAT THESE DAYS, THE ONLY POINT OF CONSENSUS ON THE NUCLEAR WASTE DISPOSAL PROGRAMS IS THAT IT NEEDS FIXING.

THE JOHNSTON-MCCLURE BILL, S. 839, TO OFFER INCENTIVES TO STATES AND TRIBES WHICH HOST A NUCLEAR WASTE REPOSITORY OR A MONITORED RETRIEVABLE STORAGE (MRS) FACILITY OFFERS YET ANOTHER ALTERNATIVE TO THE HOST OF BILLS TO AMEND THE NUCLEAR WASTE POLICY ACT ALREADY INTRODUCED THIS CONGRESS.

I ENDORSE THE BASIC CONCEPT OF THE JOHNSTON-MCCLURE BILL--THAT STATES OR TRIBES WHICH HOST A NUCLEAR WASTE DISPOSAL FACILITY SHOULD BE FINANCIALLY COMPENSATED. IN MY VIEW, IT MAKES GOOD SENSE TO COMPENSATE THE STATE OR TRIBE HOSTING A FACILITY THAT WILL SERVE THE ENTIRE NATION.

HOWEVER, I HAVE A FEW RESERVATIONS WITH THE BILL AS PRESENTLY DRAFTED.

FIRST, THE BILL SUGGESTS THAT A SITE'S QUALITY, IN TERMS OF ITS ABILITY TO ISOLATE WASTE FROM THE BIOSPHERE, IS SECONDARY TO A STATE'S OR TRIBE'S WILLINGNESS TO ACCEPT THE SITE. GIVEN THAT SPENT FUEL AND HIGH-LEVEL NUCLEAR WASTE WILL REMAIN DANGEROUSLY RADIOACTIVE FOR MORE THAN 10,000 YEARS, IT IS IMPERATIVE THAT THE LONGTERM EFFECT ON PUBLIC HEALTH AND SAFETY GOVERN ANY DECISION REGARDING THE SITING OF A NUCLEAR WASTE REPOSITORY.

SECOND, I AM CONCERNED WITH THE LEGISLATION'S REQUIREMENT THAT STATES OR TRIBES WAIVE THEIR RIGHT TO JUDICIAL REVIEW UNDER THE NUCLEAR WASTE POLICY ACT. IN ORDER FOR DOE'S PROGRAM TO BE WORKABLE, IT IS IMPERATIVE THAT STATES AND TRIBES MAINTAIN THEIR RIGHTS TO REVIEW THE SITING, CHARACTERIZATION AND CONSTRUCTION OF THE WASTE DISPOSAL FACILITIES. AS A REPRESENTATIVE FROM NEW HAMPSHIRE, I CAN TELL YOU FIRST-HAND THAT THE PUBLIC LACKS CONFIDENCE IN DOE'S MANAGEMENT OF THE NUCLEAR WASTE PROGRAM. THEREFORE, I WOULD STRONGLY DISCOURAGE ANY LEGISLATION WHICH RESTRICTS THE LEGAL RIGHTS OF A STATE OR TRIBE UNDER THE ACT.

FINALLY, I OBJECT TO THE BILL'S TREATMENT OF THE SECOND REPOSITORY PROGRAM. UNDER THE JOHNSTON-MCCLURE BILL, THE

SECOND SITE PROGRAM WOULD BE SUSPENDED ONLY IF INCENTIVE AGREEMENTS WERE REACHED ON BOTH A REPOSITORY AND A MRS FACILITY.

THERE IS SIMPLY NO REASON TO PROCEED WITH A SECOND NUCLEAR WASTE REPOSITORY.

DOE'S MAY 1986 DECISION TO POSTPONE INDEFINITELY THE SEARCH FOR A SECOND REPOSITORY WAS BASED ON LOWER-THAN-ANTICIPATED WASTE VOLUMES AS WELL AS FISCAL AND PRACTICAL CONCERNS. THESE CONDITIONS ARE VALID. THEY REMAIN UNCHANGED.

SECRETARY HERRINGTON HAS REPEATEDLY STATED THAT THERE IS NO TECHNOLOGICAL NEED FOR TWO REPOSITORIES. OVER THE PAST FIVE YEARS, DOE ESTIMATES REGARDING THE INVENTORY OF SPENT NUCLEAR HAVE DECREASED BY OVER 40%. THIS ENORMOUS DROP IN PROJECTED SPENT FUEL VOLUMES AND THE UNCERTAINTY OF FUTURE SPENT FUEL DISCHARGES PROVIDE FUNDAMENTAL GROUNDS FOR A REEVALUATION OF THE NEED FOR A SECOND REPOSITORY.

IT IS IMPORTANT TO NOTE THAT THE 70,000 METRIC TON CAP IMPOSED BY THE NUCLEAR WASTE POLICY ACT IS BASED ON NEITHER SAFETY NOR TECHNOLOGY. IF THIS UNNECESSARY CAP WERE REMOVED, THERE WOULD BE NO NEED FOR A SECOND REPOSITORY, A PROJECT WHICH WILL COST UPWARDS OF $10 BILLION. IT IS TIME THAT SCIENCE RATHER THAN POLITICS GUIDE OUR DECISIONS REGARDING THE SITING OF NUCLEAR WASTE FACILITIES.

I URGE THE COMMITTEE TO CONSIDER S. 621, SENATOR MITCHELL'S BILL TO LIFT THE OVERALL CAP OF 70,000 METRIC TONS AND TERMINATE ALL ACTIVITIES RELATING TO THE SECOND REPOSITORY PROGRAM. I BELIEVE THAT UPON CLOSE CONSIDERATION OF THE ISSUE, CONGRESS WILL SHARE DOE'S VIEW THAT ACTION ON A SECOND REPOSITORY IS UNNECESSARY AND PREMATURE.

IN CONCLUSION, I SUBMIT TO THE COMMITTEE A "STATEMENT OF PRINCIPLES REGARDING IMPLEMENTATION OF THE NUCLEAR WASTE POLICY ACT." THIS STATEMENT HAS BEEN ENDORSED BY SENATORS REPRESENTING STATES CHOSEN AS "POTENTIALLY ACCEPTABLE SITES" FOR A SECOND NUCLEAR REPOSITORY. I URGE THE COMMITTEE TO EXAMINE CAREFULLY THESE PRINCIPLES AS THEY REPRESENT SOME OF THE COMPONENTS ESSENTIAL TO ANY LEGISLATION AMENDING THE NUCLEAR WASTE POLICY ACT.

WILLIAM S. COHEN
MAINE

United States Senate
WASHINGTON, DC 20510

May 6, 1987

Honorable J. Bennett Johnston
Chairman
Senate Committee on Energy and Natural Resources
SD-358
Dirksen Senate Office Building
Washington, D.C. 20510

Dear Mr. Chairman:

We are writing as representatives of the seven states selected by the Department of Energy as potential hosts of the second nuclear waste repository and as Senators concerned about the future of the waste disposal program.

We are enclosing a copy of a Statement of Principles we collectively endorse and which we believe should be guidelines to follow as we consider the future of the waste disposal program. In our view, these principles represent basic standards to which we should adhere during a review of the Nuclear Waste Policy Act.

We hope you will examine our Statement of Principles and work with us to ensure a safe and workable waste disposal program.

Thank you for providing us with the opportunity to submit this material for the hearing record.

With best regards, we are

Sincerely,

George Mitchell
George J. Mitchell

William S. Cohen

William Proxmire

Gordon J. Humphrey

Honorable J. Bennett Johnston
May 6, 1987
Page 2

Rudy Boschwitz
Rudy Boschwitz

Sam Nunn
Sam Nunn

Dave Durenberger
Dave Durenberger

Jesse Helms
Jesse Helms

Warren B. Rudman
Warren B. Rudman

Rob Kasten
Robert Kasten

Terry Sanford
Terry Sanford

STATEMENT OF PRINCIPLES REGARDING IMPLEMENTATION OF THE NUCLEAR WASTE POLICY ACT

MAY 1987

1. THE PRIMARY PURPOSE OF THE NUCLEAR WASTE DISPOSAL PROGRAM IS TO ENSURE PUBLIC HEALTH AND SAFETY. ANY SITE CHOSEN FOR A NUCLEAR REPOSITORY MUST AT A MINIMUM MEET HEALTH AND SAFETY CRITERIA CURRENTLY CONTAINED IN THE NUCLEAR WASTE POLICY ACT AND IN THE DOE AND NRC SITING GUIDELINES AND THE EPA RADIATION PROTECTION STANDARDS. HOWEVER, THESE SITING GUIDELINES SHOULD BE IMPROVED TO PROVIDE A MORE RIGOROUS SCREENING OF POTENTIAL SITES.

2. AN INDEPENDENT BODY, INCLUDING MEMBERS PROPOSED BY THE NATIONAL ACADEMY OF SCIENCES AND AFFECTED STATES AND INDIAN TRIBES, SHOULD REVIEW DOE'S SELECTION OF SITES.

3. THE ARBITRARY 70,000 METRIC TON CAP SHOULD BE LIFTED AND WORK TOWARDS A SECOND SITE SHOULD BE INDEFINITELY SUSPENDED.

4. ADOPTION OF A REALISTIC TIMETABLE FOR PERMANENT DISPOSAL OF HIGH LEVEL WASTE SHOULD BE ENCOURAGED.

5. STATES AND INDIAN TRIBES SHOULD BE PROVIDED WITH SUFFICIENT TIME AND FUNDING TO REVIEW AND PROVIDE COMMENTS ON DOE RECOMMENDATIONS AND ASSESSMENTS. CURRENT REGULATIONS DO NOT PROVIDE SUFFICIENT TIME OR FUNDING.

6. A STATE OR INDIAN TRIBE THAT HOSTS A FEDERAL HIGH LEVEL NUCLEAR WASTE FACILITY SHOULD BE PROVIDED WITH A SIGNIFICANT LEVEL OF COMPENSATION FROM THE NUCLEAR WASTE FUND. A STATE OR INDIAN TRIBE ALSO SHOULD RECEIVE SOME LEVEL OF COMPENSATION DURING SITE CHARACTERIZATION.

7. A STATE OR INDIAN TRIBE SHOULD MAINTAIN ITS RIGHT TO JUDICIAL REVIEW UNDER THE NUCLEAR WASTE POLICY ACT.

The CHAIRMAN. I see the distinguished Chairman of the Senate Finance Committee is in the audience, and we will welcome his testimony if he wishes to speak.

STATEMENT OF HON. LLOYD BENTSEN, A U.S. SENATOR FROM THE STATE OF TEXAS

Senator BENTSEN. Thank you very much, Mr. Chairman, for giving me this opportunity to express my views concerning the legislation.

I might say as an aside, we are moving along very well with the trade bill. I think we have an excellent chance of completing it possibly today.

The CHAIRMAN. Excellent.

Senator BENTSEN. And I think you will be pleased with the result.

But more to the point, I wanted to offer some brief views regarding the Department of Energy's implementation of the Nuclear Waste Policy Act. I understand that this hearing focuses on the bill of yours, the chairman, and Senator McClure.

Mr. Chairman, my views on the manner in which DOE has handled the civilian nuclear waste policy program are pretty well known. Time and time, I have watched DOE politicize the decision-making process that is taking place, and there has been no reason for this kind of response to implementing the Act.

The effect of DOE's actions has been to heighten scrutiny of the technical aspects of the program and to undermine the public confidence in its adequacy. Because we have had some time to pay closer attention to what we really did in enacting the Nuclear Waste Policy Act, the states, other members of this and the other body, environmentalists, and indeed some members of the scientific community have begun to question seriously the scientific basis of DOE's technological assumptions in identifying the first and the second round sites and the MRS facility.

It is not that people necessarily believe that DOE's methodology is without any merit, but it is a growing consciousness that it is at the least flawed. And in large measure, that is what a lot of these pending lawsuits are about.

Perhaps more serious in terms of the eventual overall acceptance of the nuclear waste program would be DOE's activity up to this point we find is just utterly devoid of public support. I know that for the citizens of Deaf Smith County, Texas, who have no real confidence in DOE's administration of the program or the objectivity of its judgment.

I have a legitimate concern about placing such a site in an agriculturally abundant area as Deaf Smith County is, and placing it over an aquifer on which over a half a million people depend for their water supply. We have seen very little support.

And we have seen very little cooperation from the DOE. For instance, DOE has refused to give notice to the landowners about its land acquisition intentions and its activities. The local independent school district has been rebuffed in its attempt to get impact aid and assistance from DOE during this phase of the program.

Now, you can go on and on, but that is really not necessary. The point is that the public support for the program just is not there, and they have not done anything to try to bring that about.

The lack of public confidence has also come from some other quarters. We in the Congress, while very reluctant to abandon the program, have taken steps to revise, reform, re-evaluate, rethink what DOE is doing for this important program.

And I think that is the reason for your impact aid bill, Mr. Chairman, for the five bills floating around this chamber, the eight bills in the house on the nuclear waste program, the action of the Congress last year in withholding a portion of the funding for the program, and the recent action by the House Subcommittee on Energy Research and Production.

A reading of the statement of principles regarding implementation of the Nuclear Waste Policy Act generated, as I understand it, by the second round of states, it is just another example of Congress' frustration with the way this process is moving.

While I can agree with principles six, seven and eight, and wholeheartedly agree with principles one and four, I have some very serious reservations about principle three, which would undo the fabric of the Act itself. And I question the motivation of that principle, given where we are now with this program.

While no one of these actions spells our intent to abandon the program, the cumulative effect of these measures is to give us pause about the manner in which the program is being carried out.

The Department of Energy itself is having reservations about the program and the problems in implementing it. The schedule is delayed by a number of years. There has been a constant flip-flop on whether the law would be followed and the search for a second site continued.

And the draft mission plan that DOE presented to us in March is replete with reasons why there are programmatic difficulties in being true to the letter and the spirit of the Act.

Mr. Chairman, I appreciate the opportunity to give me a chance to vent my frustrations with what I have seen and what DOE has done thus far and the lack of objectivity and pragmatism and the total lack of empathy with the people that are possibly going to have such a site placed in their areas.

[The prepared statement of Senator Bentsen follows:]

Statement of the Honorable Lloyd Bentsen
Before the Committee on Energy & Natural Resources
May 7, 1987

Mr. Chairman, members of the Committee, I am pleased to be able to offer some very brief views regarding the Department of Energy's (DOE) implementation of the Nuclear Waste Policy Act. I understand that this hearing also focuses on S. 839, your and Senator McClure's bill to provide economic incentives to states to accept a nuclear waste repository and to authorize the construction of a Monitored Retrievable Storage (MRS) facility.

Mr. Chairman, my views of the manner in which DOE has handled the civilian nuclear waste policy program are well known. Time after time I have watched DOE needlessly politicize the decision-making process in this sensitive area. There has been no reason for this response to implementing the Act. The effect of DOE's actions have been to heightened scrutiny of the technical aspects of the program and to undermine public confidence in its adequacy.

Because we have had some time to pay closer attention to what we really did in enacting the Nuclear Waste Policy Act, the states, other members of this and the other body, environmentalists, and indeed some members of the scientific community have begun to question seriously the scientific basis of DOE's technological assumptions in identifying the first and second round sites and the MRS facility. It is not that people necessarily believe that DOE's methodology is without any merit, but rather there is growing consensus that it is at the very least flawed. In large measure, that is what several of the pending lawsuits are about.

Perhaps more serious in terms of the eventual, overall acceptance of the nuclear waste program, DOE's activity up to this point is utterly devoid of public support. I know that the citizens of Deaf Smith County, Texas have no real confidence in DOE's administration of the program or the objectivity of its judgments. Beyond the legitimate concern about placing a nuclear repository in as agriculturally abundant area as Deaf Smith County, the community there has received very little support and cooperation from DOE.

For instance, DOE has refused to give notice to the landowners about its land acquisition intentions and activities. The local independent school district has been rebuffed in its attempt to get impact aid and assistance from DOE during this phase of the program. I could go on and on, but that is not necessary. The point is that public support for this program is non-existent.

The lack of public confidence has also come from other quarters. We on this Hill, while very reluctant to abandon the program, have taken steps to revise, reform, re-evaluate, and re-think what DOE is doing with this important program. That, I believe, is the reason for your impact aid bill, Mr. Chairman, the five bills floating around this chamber and the eight bills in the House on the nuclear waste program, the action of the Congress last year in withholding a portion of funding for the program, and the recent action by the House Subcommittee on Energy Research and Production. A reading of the Statement of Principles Regarding Implementation of the Nuclear Waste Policy Act generated, as I understand it, by the second round states, is just another example of Congress frustration with the way this process is moving along.

While I can agree with principles six, seven, and eight, and wholeheartedly agree with principles one and four, I have very serious reservations about principle three, which would undo the fabric of the Act itself. I question the motivation of that principle given where we are now with the program.

While no one of these actions spells our intent to abandon the program, the cumulative effect of these measures is to give us pause about the manner in which the program is being carried out. The Department of Energy itself is having reservations about this program and problems in implementing it. The schedule is delayed by a number of years. There has been constant flip-flop on whether the law would be followed and the search for a second site continued. And the Draft Mission Plan that DOE presented to us in March is replete with reasons why there are programmatic difficulties in being true to the letter and spirit of the Act.

Mr. Chairman, members of the Committee, there is little need to continue. You well understand the frustration all of us have been experiencing with DOE. It has not been a job well done. The issue is far more important than a few jobs, especially in Texas. The issue is one of credibility and forthrightness. I appreciate the opportunity you have given me to share these views.

The CHAIRMAN. Thank you very much, Senator Bentsen.

We have consulted with DOE about Texas' complaints, because we have heard those complaints from the citizens of Deaf Smith. And DOE has promised that they will try to reassure Deaf Smith.

I think part of the problem was what somebody has said DOE was going to do and not what they are actually going to do, particularly with respect to local hires. They are going to have local hires during the process of characterization to the maximum extent possible, and they have assured me that they will consult very closely with the people in Deaf Smith.

Which is not to say, of course, that Deaf Smith wants the repository or that the State of Texas does, but rather that we will do everything we can to assure that DOE follows the law, consults, and is sensitive to the local needs.

Senator BENTSEN. Mr. Chairman, it is not just a matter of a few jobs in the area. It is far greater than that, and the concern about the safety of that site, when you have abundant farm lands and you have an incredible aquifer underneath there on which the entire area is dependent. The possibility that something could be done that might irreparably damage it, that is the concern and a very important one.

Thank you.

The CHAIRMAN. Thank you very much, Senator Bentsen, and good luck on your trade bill.

Next we are happy to have Barbara Vucanovich from the Second District of the State of Nevada. Congresswoman Vucanovich, we are delighted to have you.

STATEMENT OF HON. BARBARA F. VUCANOVICH, A U.S. REPRESENTATIVE FROM THE STATE OF NEVADA

Mrs. VUCANOVICH. Thank you, Senator, and my colleague from the southern part of the State is here with me, Congressman Bilbray, and I am sure he would like to——

The CHAIRMAN. I am delighted to have Congressman Bilbray here as well.

Mrs. VUCANOVICH. As you have seen, we may have a vote. So with your indulgence, I would like to proceed.

The CHAIRMAN. Yes, please do.

Mrs. VUCANOVICH. Thank you very much.

I would like to acknowledge and also thank the people who have traveled from Nevada who will be testifying before you today. We have several people in the audience who will be testifying.

And I would like to thank you for holding these hearings on a subject that is certainly important to me and to my State. We are talking about the disposition of this country's high level nuclear waste.

I think you are all aware of the events that have taken place over the last year regarding the Nuclear Waste Policy Act and its implementation by the Department of Energy, and it is no secret that we in Nevada feel that the act has been compromised by DOE and that it has not been carried out in the way that authors of the bill had visualized.

When Secretary Herrington announced that he was indefinitely postponing the site selection process for the second repository, it became obvious to me that this was now a political issue with little regard for the law or the technical merits of the selected sites.

A key element of the fragile compromise that produced the Nuclear Waste Policy Act was the provision for two repositories, one in the East and one in the West. The act also provided for a monitored retrievable storage system for storing high level nuclear waste.

And as you well know, Yucca Mountain, Nevada, which is in my district, has the dubious distinction of being selected as one of the three potential sites for the first repository. Allegations have been made that, since Yucca Mountain is barren, located in a sparsely populated area, and close to the Nevada Test Site, that it is the perfect place for the repository.

However, those are not valid scientific reasons. Until the proper technical and scientific testing is performed on a variety of suitable geological host materials and until there is an irrefutable guarantee that the repository is absolutely safe, no State in this Nation should be expected to accept 70,000 metric tons of the most deadly substance man has ever yet produced.

Mr. Chairman, your bill, S. 839, which would authorize the Secretary of Energy to enter into incentive agreements with certain States and tribes who offer to take the repository or the MRS is, I believe, premature.

I agree with your concept that the State that finally is selected to house the repository should definitely receive significant incentives for doing so. However, absent a guaranteed safe repository, those benefits, regardless of how extravagant and appetizing they are, only serve to cloud an already dangerously politicized site selection process.

Mr. Chairman, as Members of Congress we have an obligation to the people of this country to make responsible decisions, based on sound technical criteria and not politics, regarding the future of our nuclear waste policies.

I hope you will proceed cautiously in your deliberations. Whatever decisions we make will affect hundreds of generations of future Americans, and these may well be the most important decisions that we will make as legislators.

I thank you again for holding the hearings and for the opportunity to testify in front of you today. And just without part of my formal statement, I think we all know that "NIMBY" is a word we hear all the time, "not in my back yard."

And I understand, listening to other Members of Congress and the Senate, that we are disturbed. And I serve on the Committee with Congressman Udall, whom you know worked very hard to put together this fragile compromise, and I see him looking just devastated at what has happened to the Nuclear Waste Policy Act.

I think he believes, as many of us do, that it is politicized, and I wish we could find some answers.

Thank you, Mr. Chairman.

[The prepared statement of Mrs. Vucanovich follows:]

STATEMENT OF
CONGRESSMAN BARBARA VUCANOVICH
BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
MAY 7, 1987

Good afternoon, Mr. Chairman and members of the Committee. I'd like to acknowledge and welcome the people who have travelled from Nevada to testify before you today. I'd also like to thank you for holding these hearings on a subject that is very important to me and my state -- the disposition of this country's high level nuclear waste.

Mr. Chairman, you are well aware of the events that have taken place over the last year regarding the Nuclear Waste Policy Act and its implementation by the Department of Energy. It is no secret that we, in Nevada, feel that the Act has been compromised by DOE and that it has not been carried out in the way that the authors of the bill had envisioned.

When Secretary Herrington announced that he was indefinitely postponing the site selection process for the second repository it became obvious to me that this was now a political issue, with little regard for the law or the technical merits of the selected sites. A key element of the fragile compromise that produced the Nuclear Waste Policy Act was the provision for two repositories -- one in the east and one in west. The Act also provided for a Monitored Retreivable Storage System for storing high level nuclear waste.

As you all know, Yucca Mountain, Nevada, which is in my district, has the dubious distinction of being selected as one of the three potential sites for the first repository. Allegations have been made that since Yucca Mountain is barren, located in a sparsely populated area and close to the Nevada Test Site, that it is the perfect place for the repository. However, those are not valid, scientific reasons. Until the proper technical and scientific testing is performed on a variety of suitable geologic host materials, and until there is an irrefutable guaranty that a repository is absolutely safe, no state in this nation should be expected to accept 70,000 metric tons of the most deadly substance man has yet produced.

Mr. Chairman, your bill, S. 839, which would authorize the Secretary of Energy to enter into incentive agreements with certain states and tribes who offer to take the repository or the MRS, is, I believe, premature. I agree with your concept that the state that finally is selected to house the repository should definitely receive significant incentives for doing so. However, absent a guaranteed safe repository, those benefits, regardless of how extravagant and appetizing they are, only serve to cloud an already dangerously politicized site selection process.

Mr. Chairman, members of the Committee, as Members of Congress, we have an obligation to the people of this country to make responsible decisions, based on sound technical criteria and not politics, regarding the future of our nuclear waste policies. I urge you to proceed cautiously in your deliberations. Whatever decisions we make, will affect hundreds of generations of future Americans. These may well be the most important decisions we will make as legislators.

Thank you again for holding hearings on this issue and for the opportunity I have to testify before you.

The **Chairman**. Thank you very much, Ms. Vucanovich.

Let me ask you this. Under S. 839, safety standards are not at all degraded. They are absolute and no State, whether it chose or did not choose, would at all suffer any risk at all, zero risk, if the repository were ultimately located there. That is number one.

Number two, S. 839 contains no compulsion at all to a State. A State can come in and negotiate with DOE if DOE feels that that State is safe, whether it is one of the three picked sites at this point. If DOE feels that they are suitable, then they could enter into the incentive agreement with that State.

The characterization would proceed, and only after the final characterization is complete and all the data is in would that State be finally picked. And in the meantime, of course, they would get their $100 million initially, those interim payments, and finally $100 million a year.

That may well not be sufficient to some States, probably not Nevada or possibly Nevada. I do not know. You could speak to that better than I.

But is there anything wrong with offering those incentives to a State, keeping in mind that it could save the Federal Government a great deal of money and provide the fund from which those benefits could be paid?

Mrs. **Vucanovich**. Well, I do agree that, whatever State is selected, certainly we should make some provisions for them, because they are taking care of the rest of the country and accepting things that are a national problem, rather than a State problem.

When I say I think it is premature, I think it is. I understand your thinking that it should be done ahead of time and then you——

The **Chairman**. And that is the only time it can be done, in my view.

Mrs. **Vucanovich**. And of course, that is probably true. I just know there is such strong feeling against it in my State, and I know that my governor has testified that way and I am certain that Congressman Bilbray will and I know Senator Reid will.

The **Chairman**. Let me ask you this. I know they have testified against the site and they have cited extensive reasons, which we have debated here in this Committee. It seems to me those reasons are reasons which oppose the siting of the repository in Nevada, as opposed to S. 839.

I mean, S. 839 can only help Nevada. It cannot hurt Nevada, because if Nevada is chosen—or chooses to use the provisions of 839, then they get the $100 million a year. If they do not choose to do so, they have not lost anything. If another State chooses it, then Nevada is helped because Nevada did not want the wastes in the first place.

Now, for the life of me I cannot understand why Nevada could oppose that. Can you?

Mrs. **Vucanovich**. Well, I am here to tell you that we really hope you find another way to do it, and not bargain with states to take it up front. We hope that we can support—I do happen to support the MRS basis. I think it is a better move, because I do think that—I am not so sure that the technological and the scientific answers really are there for the Department of Energy yet.

And I am inclined to think that, if we can do it at an MRS and hold the process until we can prove, wherever it goes, that it is totally safe.

The CHAIRMAN. Senator Sasser was here earlier and said we did not need an MRS. I think what we have is a very fine balance here that is scientifically valid and I hope politically valid, that we need both the MRS and the repository.

Mrs. VUCANOVICH. Well, we hope some answers can be found.

The CHAIRMAN. And I hope you all will rethink this question of S. 839. S. 839 does not make Nevada do anything. It can only help Nevada. If S. 839 is defeated and the process goes forward and Nevada is picked, I do not think Nevada gets a benefits package.

Mrs. VUCANOVICH. I wonder if, though, the people whom we represent would misunderstand our support of your bill. They might think that we were encouraging you to give it to Nevada. So I think we are going to have to find some way to support you if that——

The CHAIRMAN. Well, if that is what the people think, I think they vastly misunderstand this bill. As I was telling Senator Sasser earlier, it is like the Pennzoil-Texaco lawsuit.

You know, the Texaco people did not put in any evidence of damages at all because they did not want the jury to think that they might not be confident of losing. But they ended up losing, and the only evidence then in the record was the evidence that the other side had put on that gave them damages many times what they would otherwise have gotten.

So I just do not want you to miss the chance. You know, oppose it all the way. I mean, oppose the repository, but do not oppose S. 839.

STATEMENT OF HON. JAMES H. BILBRAY, A U.S. REPRESENTATIVE FROM THE STATE OF NEVADA

Mr. BILBRAY. Mr. Chairman, I am going to go out of order because I have not made my statement. But I think that the problem with the bill is basically the giving up of the due process, the judicial review.

I think all of us agree that the state or the territory whoever accepts the nuclear repository, whether by will or against their will, should be compensated, but that that state or that territory should not give up any due process of law in so receiving it. And your bill, as I understand it, takes away that due process.

The CHAIRMAN. Well, it does not take away due process. It takes away——

Mr. BILBRAY. Judicial review.

The CHAIRMAN. Judicial review, that is right. But we create another means of getting the review, which would be to let the scientists do the review.

Mr. BILBRAY. I am not sure that my state trusts the scientists. I think they trust the courts more than they do the scientists, and that is going a long way, because you know how they feel about lawyers and judges, too.

But I really feel that if your bill could be amended to allow the fact that, whatever state receives the nuclear repository, receives the compensation, but does not waive or give up any of its rights, then I think the bill could be more satisfactory to all of us.

The Chairman. Well, you know, I do not object to court review of that which the courts are competent to do. But courts really basically are not equipped to make these scientific judgments. They are equipped to review witnesses and weigh testimony. And lawyers and judges can become sort of quick scientists for the purpose of one case.

But I do not think we have gotten very good science out of our courts.

Mr. Bilbray. Mr. Chairman, I have only been here five months, but basically I have had different scientists come to me on practically everything that has come before the House. I will have one group that expresses one view and another group that expresses an opposite view.

And just like two lawyers—you put three of them together, they all have three different opinions. Scientists all have three different opinions, too.

And I think the fear is that the Nevada—the DRI and the groups that are looking at the test site as a potential site have one opinion, the Department of Energy scentists have a different opinion.

Now we are saying that, if the decision is made to locate it in Tennessee, Nevada, Texas, Washington, or wherever it may be, that we give up judicial review, we have got to go back to those scientists, who now say: We have looked it over, it is perfectly safe, you can have it.

I think, and Senator Reid will testify in a minute, I think, the basic premise here is I think any state or territory that receives it should be compensated, but do not make us give up any of our, and I call it due process, but judicial review in siting that selection.

The Chairman. Well, you understand, under S. 839, if we pass that bill, Nevada can just say no and you do not surrender any rights at all. There may be another state that would choose it.

Mr. Bilbray. Yes, I understand that. But we do not want—what we would like to see, I think we would like to have our cake and eat it, too. We would like to have the site process selection go through and be scientifically proven correct and at the end the state or territory actually receive the compensation you propose in your bill.

So we would like, again, like to have you pass your bill with modifications.

The Chairman. Well, you see, the problem there is, first of all, all the evidence we have heard here and all the sites we have seen in Europe say that the problem is not one of safety or science, that scientifically nuclear waste is an easy problem, it poses absolutely no danger. And they have demonstrated that in Europe, they have shown it in Europe, and the people accept it in Europe.

I am not asking you to believe that. I am just saying that that is the evidence.

Mr. Bilbray. Mr. Chairman, they told us for years that aboveground testing at our Nevada test site was safe and it would have no problems, either. And now we find that it has had disastrous effects on the environment in eastern Nevada and also in Utah and some of the surrounding states.

The CHAIRMAN. Well, there are a lot of things that were once thought. They used to think all elements were made of fire, air and water, I think, and they were wrong on that. And they were certainly wrong about that, and they have been wrong about a lot of things.

But that does not—you cannot throw all science out the window because they were wrong on something. And I think the evidence is overwhelming that nuclear waste, properly managed, is a relatively easy problem scientifically. You have got to be exceedingly careful, but if you are exceedingly careful the technology is there to deal with it and the danger to the citizens is very little.

Now, that is not to say that it is not a tremendous political problem, and we deal in politics and we are not going to dismiss that.

Mr. BILBRAY. Well, I think one of our problems in Nevada is the fact that we have the low level site at Beatty, Nevada. And over the years, I served in the Nevada legislature and we had a series of problems with Beatty in the sense of leaking containers, different problems we have had there.

And that is just low level, which is not nearly as dangerous as the commodities we are talking about. So Nevadans have had that——

The CHAIRMAN. Well, it might be if it is not properly managed. Low level—well, actually low level in this country they just put in containers and bury it in the ground. In Sweden they are much more careful with it.

Mr. BILBRAY. We are in Nevada, too. We have a very extensive act that I was a coauthor of in our state. And I think that is the problem.

In fact, I am only going to submit my testimony now, Mr. Chairman, because I think we have covered just about everything that we wanted to cover, except our opposition to your bill only if there can be no changes in the bill. If the bill could be changed to allow for judicial review, then I would wholeheartedly support your bill.

[The prepared statement of Mr. Bilbray follows:]

TESTIMONY OF
CONGRESSMAN JAMES H. BILBRAY
BEFORE THE SENATE COMMITTEE
ON
ENERGY AND NATURAL RESOURCES

MAY 7, 1987

Mr. Chairman and Members of the Committee, thank you for letting me testify today. I represent the first district of Nevada, which encompasses Clark County and the City of Las Vegas. Prior to my election to Congress I served in the Nevada State Senate for six years.

My background in the state legislature has given me first-hand knowledge of the distrust the people of Nevada feel toward the site selection process for a high level nuclear waste repository at Yucca Mountain.

For over thirty years Nevada has served its nation by accepting the test of atomic weapons. Initially these tests were above ground, yet the technology and scientist of the day said there was no problem with above ground atomic testing. However, time has shown that the technology and the scientist were both wrong - tragically wrong.

Granted, the tests are continuing, but now the nuclear bombs are exploded underground. Contrary to any references made by scientists that the 500 past explosions will pose more of a threat than a nuclear repository, I have only this to say: there has never been a case where radioactivity has leaked into the surrounding environment or the water table because of atomic explosions and there are 500 examples of proof to substantiate this fact.

Sadly, Mr. Chairman, scientists have come before this committee to slander one nuclear project, the Nevada Test Site, to try to justify another nuclear project, the nuclear waste repository. This does nothing to bring merit to the nuclear waste repository issue or present a sense of trust to the people of Nevada.

Recent history has clearly proved that when scientists are brought in to the political process concerning a controversial and emotional issue, then science is not always well served. The people of the Southwestern portion of the United States tragically realize the flaws in the promises of scientists during the period of above ground atomic testing.

Are we, as Congressman, supposed to accept only one group of scientists subjective findings while ignoring another group of scientists, who have another view of the nuclear waste repository issue? Do you, Mr. Chairman, believe that a group of scientists who work for some national organization are of more worth than scientists who represent the states of Nevada, Texas and Washington.

Though geology, physics and chemistry are exact and perfect sciences, the men and women who try to interpret these sciences are imperfect and unexact. Realizing this fact, we should then see that the arbritrary selection of one group of scientists over another group of scientists can bring no merit or integrity to the nuclear waste repository issue.

If the governments of states are responsible for the welfare of their citizens, then how can we, the United States Congress, ignore the technical and scientific information that the states of Nevada, Texas and Washington have in their possession.

One such piece of information that the state of Nevada has in its possession is an interesting study on actual and estimated amounts of residual radioactivity in the ground at the Nevada Test Site compared to a proposed 70,000 ton nuclear waste repository.

For the Nevada Test Site to equal the estimated amount of residual radioactivity at a 70,000 ton nuclear waste repository, there would have to be 800,000 to 1 million nuclear explosions of at least 20 kilotons in strength.

Clearly, the Nevada Test Site has not exploded any where near that amount of nuclear bombs. Yet, if the national security interests of this nation require more and more nuclear bomb explosions, then the Nevada Test Site will need a great deal of room to expand.

There is no doubt that Yucca Mountain, a proposed site for a nuclear waste repository, will be considered for future incorporation to the Nevada Test Site. This is not idle speculation on my part, but instead, actual consideration for this action by the Department of Defense.

If we decide to fence in the Nevada Test Site from future expansion, then where will nuclear bombs be tested should our national security concerns dictate this. Certainly, no other state in the country will accept a test site for nuclear bombs. Because of this certainty we must constantly be aware of the possible future expansion of the Nevada Test Site.

Mr. Chairman, I honestly believe that proposing a nuclear waste repository in Nevada which will directly border the Nevada Test Site is in effect a statement on our future national security needs. Yet, regardless of our concerns for the future of the Nevada Test Site we must guarantee the safety and scientific integrity of the siting process of the proposed nuclear waste repository.

I close my testimony today by simply saying this: If Congress will determine the future integrity of the Nuclear Waste Policy Act of 1982, then, as Chairman Johnston has stated, science will play a large and determining factor. However, we, as Congressman, cannot arbitrarily choose a group of scientists, who, through their past statements, have shown a predetermination to a certain outcome.

Stacking the deck with scientists that have a certain bias towards a particular site, whether they be from the DOE or the National Academy of Science, is completely unacceptable and will bring no trust to the siting process from the people of Nevada. Especially considering that there are other, equally qualified scientists, who state opposing viewpoints about the nuclear waste repository.

The CHAIRMAN. Well, let me urge you to think positively about the bill. I mean, the bill—believe me, we are not going to try to politically choose, second guess the scientists.

But there are things in the literature, which I am sure you have read, that say that Nevada is the appropriate site. If that is so, then I think we ought to try to find a way to compensate Nevada or whichever state.

Mr. BILBRAY. We agree on that.

The CHAIRMAN. Without surrendering any of those high safety standards. And S. 839, I submit to you, does that. Now, if we say you keep your veto, you can go to court, you can try to frustrate the thing, and still get your $100 million a year, too, then we do not safe the money from characterizing the other site.

Mr. BILBRAY. Well, it is like taking care of the unfortunate victim. You know, we believe in victims compensation. In this particular case, we also believe in victims compensation, whether that is Washington, Texas, Tennessee, Maine, or wherever it may be, Mr. Chairman.

The CHAIRMAN. And as I say, you can just say no. So think about this thing. I know public figures in Nevada have taken a strong—you know, called it public bribery and all this. That is not my intention at all. It is my intention to be very practical.

We do not have a scientific or safety or environmental problem with nuclear wastes. We have a political problem, an emotional problem, and those are big problems. And we are trying to deal with that in a straightforward way; $100 million a year, do you know what that can do? Well, sure you know what it can do for Nevada. What is your budget out there, about $1.1 billion?

Mrs. VUCANOVICH. It is probably a little over a billion. I do not know.

Mr. BILBRAY. A little over a billion, yes. That is not for one year, though.

Mrs. VUCANOVICH. Two years.

The CHAIRMAN. Oh, it is $2 billion?

Mrs. VUCANOVICH. Two years.

The CHAIRMAN. Oh, 2 years.

Mrs. VUCANOVICH. Two years.

The CHAIRMAN. A billion dollars for 2 years?

Mr. BILBRAY. About $1.2 billion, I think, $600 million a year.

Mrs. VUCANOVICH. Hard to believe, is it not?

The CHAIRMAN. That is incredible.

Mr. BILBRAY. We are a very thrifty State. We balance our budget, Mr. Chairman.

The CHAIRMAN. And keep in mind, the National Academy of Sciences testified here that the 550 to 600 test site holes which you have where nuclear explosions have been taken, which are filled with plutonium, cesium, strontium, iodine, et cetera, are all more dangerous.

They think they are not dangerous, but to the extent that they are dangerous, they are many times more dangerous than the nuclear repository would be.

Mr. BILBRAY. Well, Mr. Chairman, the governor has just completed a report and the report is being typed and will be submitted to this committee, that shows that it would take 800,000 to one million atomic tests of 20 kilotons or more to equal the 70 tons of radioactive wastes that would be put in the nuclear repository.

And that report will be made available to this Committee.

The CHAIRMAN. Well, I think that is true, but you see the difference is that these nuclear wastes are going to be first of all put in rods, and then the rods are going to be packed in a container, which itself will be good for hundreds of years—well, as far as the eye can see.

And then that in turn will be put into a repository, which will be in turn sealed off from the biosphere, as opposed to these explosions, which are just there in the ground.

Mr. BILBRAY. Well, Mr. Chairman, we are getting back to arguing where the site would be, which you said you did not want to go to. But back to your bill again, again getting back to point, I think the entire delegation—I cannot speak for everybody—I think would again support your bill if you—I know you say, we will give you a little sugar, like Mary Poppins did to make the medicine go down.

But in this particular case, we feel that whoever gets it, whoever the victim is, needs the sugar to make the medicine go down, regardless if they have got the illness already or not.

So we would ask you—your idea is a good one. We think it is good to compensate the state or territory that receives it. But do not make us give up any of our rights. Do not make us just say yes to be able to be compensated. In other words like a victim in a settlement, saying you can take $15,000 but if you go to trial you may get nothing, so you better take the $15,000.

I would like to think that justice will prevail and that victim would receive the compensation they are entitled to without going to trial, a fair and equitable settlement for that victim could be achieved, whoever that victim is.

The CHAIRMAN. You sound like a trial lawyer.

Mr. BILBRAY. I am. [Laughter.]

The CHAIRMAN. Did you ever lose a case when you turned down a settlement?

Mr. BILBRAY. Yes.

The CHAIRMAN. Let me congratulate both of you on very reasoned, very good testimony. I appreciate your position and your political difficulties, and also the force of your logic. Thank you very much.

Senator Hecht.

Senator HECHT. As long as our Chairman congratulates our esteemed Congressmen, I will not say any more, because I think we are all on a time frame right now. We have some people in from Nevada who flew in and I sure want to make time for them.

Mrs. VUCANOVICH. Thank you very much. I appreciate it.

The CHAIRMAN. Senator Reid just flew in from his other Committee as well. He has been on and off here all afternoon, and been very patient. Senator Reid, welcome to the committee.

STATEMENT OF HON. HARRY REID, A U.S. SENATOR FROM THE STATE OF NEVADA

Senator REID. Thank you very much, Mr. Chairman, Senator Hecht.

I would like to also, as Senator Hecht, welcome the people from Nevada who are here today to make their concerns known about Senate bill 839.

Mr. Chairman, the Nuclear Waste Policy Act Amendments Act of 1987 provides a benefits package to affected states or Indian tribes hosting a repository or a monitored retrievable storage facility. Specifically, S. 839 proposes an annual incentive, as we have heard several times today, of $100 million to the State that takes the first high level nuclear waste repository.

The bill would also authorize construction of a monitored retrievable storage facility and allow payments of $50 million annually to a state that agrees to host it.

DOE's search for a second permanent repository site would be deferred.

The authors of this incentive package deserve commendation—and I say this sincerely, Mr. Chairman—for your efforts toward trying to resolve the nuclear waste disposal dilemma. But again I stress my opposition to the plan.

Essentially, the incentive proposal reinforces what I have said for years, and that is the nuclear waste program—and I have heard it referred to earlier today as an Edsel. I refer to it as a political leper that is in serious trouble.

The evidence clearly indicates that the site selection process is not based on technical suitability, but rather on political expediency. And it is interesting for me to sit here and listen to the other problems other states have had with DOE.

I guess misery loves company, Mr. Chairman, but we thought only Nevada was having the problems with DOE. But after hearing Senator Sasser, Senator Mitchell, it seems clear that the problem is not related only to the state of Nevada.

The proposal, though, S. 839, also referred to by some as the grand compromise, concludes that a state may be induced to accept a repository in return for these federal payments. In so doing, the bill ignores the health and safety concerns of the public, ignores the technical issue of site suitability, and essentially reinforces the belief that DOE has not properly handled the program.

I have never believed that geologic siting is necessarily the answer to our nuclear waste disposal program. And we have heard from other people who have testified here today, Mr. Chairman, that maybe it should just stay where it is. Others have said it should be a monitored retrievable storage facility, and others have said it should be a permanent repository.

I think you were very concise and technically correct today when you said the Nuclear Waste Policy Act calls for the monitored retrievable storage system. And I think during the past several weeks there has been something lost in translation, that suddenly somebody came up with the monitored retrievable storage system. But it is in the Act, and it has not received the notoriety that the permanent site has, but it is in the Act.

But by continuing to pursue the legislative mandate of the 1982 act, I believe, Mr. Chairman, we may be closing ourselves off from safer, more efficient, and less costly alternatives for the handling of high level nuclear wastes.

But the Nuclear Waste Policy Act Amendments Act of 1987 is certainly not the panacea. I strongly doubt that any state would compromise the health and safety of the public or future generations for short term economic gain.

The CHAIRMAN. Let me interrupt you at that point just to say that there is absolutely no compromise with the health and safety. All of the requirements of licensing by the NRC, all of the standards of health and safety would be inherent in S. 839.

None of that is surrendered. It is simply that the state would sign an incentive agreement with the federal government. Then you would characterize, and it is only after characterization, only after you have satisfied all the health and safety requirements, that they could put in the nuclear wastes.

Senator REID. I understand, Mr. Chairman, those are the words. The problem, though, as I heard one of our colleagues testify yesterday, that perception is reality. And the problem we have in this instance, even though I will disagree with you on some of the scientific findings, is the perception in this instance, as indicated not from the State of Nevada, but Senator Sasser who testified from the State of Tennessee.

He said over 90 percent of the people of Tennessee do not believe nuclear waste is safe. So perception does become reality.

The CHAIRMAN. Well, I certainly agree with you in that respect. It may be voodoo science, but it is the perception of a lot of people.

Senator REID. Mr. Chairman, I do not believe that a quick fix to the nuclear waste disposal exists. Testimony presented to this committee last month from Governors and officials from potential host states clearly reflects this sentiment.

In fact, many agreed that compensation to the state selected to house the repository is warranted, but only after the technical suitability of the site has been clearly established. We have heard more about that today.

I agree with Nevada's Governor, Richard Bryan, when he testified before this committee about the status of the nuclear high level waste program. He said that the present program is so tainted and unacceptable "that it simply must be stopped and many of the initial DOE decisions rescinded."

Governor Bryan's comments were echoed in subsequent testimony presented to this Committee. I believe these sentiments should be seriously considered.

Senator Hecht yesterday introduced legislation on its face that appears meritorious. My staff and I are now reviewing this, hopeful that we can cosponsor this legislative proposal. Senator Hecht's field review of European handling of high level nuclear wastes appears to have been beneficial to this country.

This morning, Mr. Chairman, I was a member of a committee, Senator Breaux's Committee on Nuclear Regulation, that is I believe still going on. It was this afternoon earlier. This hearing specifically dealt with evacuation at a nuclear powerplant in time of emergency.

The controversy is significant and ongoing. Today's intense hearing dealt with having evacuation plans developed without local input. The NRC is doing that. This hearing was to develop a factual pattern to show that that should not be the case.

Mr. Chairman, magnify this problem that we had in this hearing that I attended today by talking not about an evacuation plan, but of placing high level nuclear wastes, when in the instance of the state of Nevada the Department of Energy has fought, refused—even after a lawsuit was filed, they have refused to comply with what we feel is the federal law to give the States the money to allow the States to have sufficient input.

Certainly, the States of Nevada, Washington, Texas, and Tennessee, should be allowed to determine their own destiny.

Mr. Chairman, again, and I say as clearly as I can, I express to you my appreciation for your kind attention. You personally have attended these hearings that I have attended, with all your attention. And I think that speaks well of you and the importance you hold to this issue.

And for me and the state of Nevada, we are grateful that you are taking the personal time that you have to listen to us, other people from the state of Nevada, and around the country.

[The prepared statement of Senator Reid follows:]

TESTIMONY OF THE HONORABLE HARRY REID
BEFORE THE ENERGY AND NATURAL RESOURCES COMMITTEE
UNITED STATES SENATE
S. 839: NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987
MAY 7, 1987

Mr. Chairman and members of the Committee, thank you very much for the opportunity to present testimony to the Energy and Natural Resources Committee about the Nuclear Waste Policy Act Amendments Act of 1987, introduced by Chairman Johnston and Senator McClure. I would also like to welcome the many Nevadans who are here today to make their concerns about S. 839 known.

The Nuclear Waste Policy Act Amendments Act of 1987 provides a benefits package to affected states or Indian tribes hosting a repository or Monitored Retrievable Storage facility. Specifically, S. 839 proposes an annual incentive of $100 million to the state that takes the nation's first high-level nuclear waste repository. The bill would also authorize construction of a Monitored Retrievable Storage (MRS) waste facility and allow payments of $50 million annually to a state that agrees to host it. DOE's search for a second permanent repository site would be deferred.

The authors of this incentive package deserve commendation for their efforts toward resolving the nuclear waste disposal dilemma. But, I again stress my opposition to the plan.

Essentially, the "incentive" proposal reinforces what I have said for years. And that is...the nuclear waste program is a political leper and is in serious trouble. The evidence clearly indicates that the site selection process is not based on technical suitability, but rather on political expediency.

This proposal, also referred to as the "grand compromise," concludes that a state may be induced to accept the repository in return for federal payments. In so doing, the bill ignores the health and safety concerns of the public, ignores the technical issue of site suitability and essentially reinforces the belief that DOE has not properly handled the program.

I have never believed that geological siting is necessarily the answer to our nuclear waste disposal problem. By continuing to pursue the legislative mandate of the 1982 Act, we may be closing ourselves off from safer, more efficient, and less costly alternatives for the handling of high-level nuclear waste. But, the Nuclear Waste Policy Act Amendments Act of 1987 is certainly not the panacea. I strongly doubt that any state would compromise the health and safety of the public for future generations for short-term economic gain. Money cannot buy the public's trust.

Mr. Chairman, I don't believe that a quick fix to the nuclear waste disposal program exists. Testimony presented to this Committee last month from governors and officials from potential host states clearly reflects this sentiment. In fact, many agreed that compensation to the state selected to house the repository is warranted -- but, only **after** the technical suitability of the site has been clearly established.

I agree with Nevada Governor Bryan's remarks before this Committee about the status of the high level waste program. In his testimony, the Governor noted that "the present program is so tainted and unacceptable that it simply must be stopped and many of the initial DOE decisions rescinded." Governor Bryan's comments were echoed in subsequent testimony presented to this Committee. I believe these sentiments should be seriously considered.

Again, I want to express my appreciation to the Committee for your kind attention extended to me on a matter of critical concern to my state. Thank you.

Senator HECHT. If I may give you a bipartisan compliment, I would say the same thing. I think you have taken this nuclear policy, grabbed it, and you are going about it with good intentions. You had the trip over to Europe to teach us exactly how the smart people are doing it, how the nuclear cycle works. And I certainly commend the way you are handling this Committee.

The CHAIRMAN. I appreciate those words very much, and I just want to know where the television is. [Laughter.]

That was the high point of these whole hearings. [Laughter.]

Senator Reid, thank you for your testimony.

Senator REID. Mr. Chairman, we can always redo that at any time.

Senator HECHT. I will say it again, no problem.

The CHAIRMAN. Thank you.

Senator Reid, I know Nevada or any other state would like to, as somebody said, have its cake and eat it, too—go through the whole process, characterize three sites, hope that one of the other sites is picked, and then, if finally Nevada is picked, then maybe file lawsuits and all of that, and then, if you lose the lawsuits, then come to Congress to get $100 million a year.

I think the chances of that are somewhere between nonexistent and remote. The reason I say that is that—and I do not know that we can pass S. 839. I think we can. I hope we can. But I think the reason that we can is that it short-circuits the characterization of two other sites to give you a fund of $2 billion roughly, if the estimates of the cost of characterization of a billion dollars a site are correct. And thereby you can avoid those and pay that host site $100 million a year, which is serious money for any state and especially in Nevada.

Now, Nevada does not have to take it. You can just say no, and there might be another state that would say yes, making it less likely, by whatever percentage I do not know, that Nevada would be ultimately picked.

I do not understand why Nevada would want to oppose that kind of legislation.

Senator REID. Mr. Chairman, I think that you have been persuasive the last few weeks since you have introduced this bill, and I think it is something that the state of Nevada is going to consider.

I certainly am going to look at this, and my staff has been meeting with your staff and trying to get a better fix on this, because the State of Nevada—and this is my off the cuff remark in this regard. Nevada will never accept this, so if the bill passed there would be some hope that an Indian tribe or another state would accept it and it would be off Nevada's back.

So that is one of the reasons that I am giving strong consideration to your legislation.

The CHAIRMAN. And I can tell you that I know of two states on the MRS that I have talked to in my office that have been interested. I say states; they are groups from states. And maybe nothing will come of it, and I doubt that they would go public until and unless the bill passes, because that is the thing that interests them.

You know, you are not going to get a lot of states who are going to be lining up and saying, I will take it if the bill passes, because then the bill may not pass and then they have sort of volunteered for it and then they do not get the $100 million or $50 million, as the case may be.

So you have to pass the legislation before you can find out whether anyone is interested. Indeed, Nevada itself may not be fully interested until the legislation passes. You would know the politics of that a lot better than I.

But it is entirely conceivable that other states would be interested in the repository. And it does no harm at all that I can see and may do a great deal of good. And I think it would be fair to states to compensate them from their perception of harm, even though I am totally persuaded that there is absolutely no harm at all.

And I questioned the National Academy of Sciences and the NRC and the DOE about, what is the worst thing that can happen? Well, it is not an explosion. It is not liquid, so it cannot flow down anywhere. It is not gaseous, so it cannot get into the biosphere.

If you had one of these crazy accidents where some plane crashes into a truck that is coming in and possibly—and they say these trucks are indestructible and they cannot break, and I am persuaded that that is so. But let us just say it does.

Then what happens? Does it blow up? No. If you are very close to it, if you are very close and you just happen to walk up, let us say the truck has broken open and you are right there, you could suffer radiation damage.

But you know, in the whole history of the nuclear program I do not think they have ever had a case of radiation for a worker working around nuclear wastes. I think I am correct about that. At least the testimony seemed to be that that is so. If there was a case of radiation, there were not many and it was not serious.

Now, I think there was somebody killed and there was some question about whether they intentionally exposed themselves to radiation with respect to a nuclear plant. But with respect to the waste, it could not happen.

It is not like a nuclear reactor. With a nuclear reactor, you have got a very, very, very small chance of a very, very big accident. With respect to nuclear wastes, you have got a very small, vanishingly small chance of a relatively small accident in which, you know, some workers at the plant might get radiated, but that people off-site have no chance of being radiated.

So I am not trying to put a big smile on a difficult thing. I am not trying to be one of those, like they used to say in the old days of the AEC, that nuclear energy is too cheap to meter and absolutely no chance of a TMI happening. We know what the real dangers are.

But with respect to nuclear wastes, it is simply not so. It is so that if we pass 839 you get paid—and somebody chooses it, you get paid as if there was a lot of damage, as if there was a lot of harm. And you can do a lot with $100 million a year.

So I hope the people of Nevada, as well as the other states, affected and nonaffected, through their Senators and Congressmen will look at S. 839, not as a compromise with safety. There is not one compromise with safety at all in S. 839. The absolute same standards.

If you sign up with them and every safety standard is not met, then it is simply not put in that state. So there is no compromise with that.

There is a possibility, though, that a willing state would get a site, a safe site, an absolutely safe site, and get well compensated for it, and that state may not be Nevada. So I would urge you to rethink that and come on board with us.

Senator REID. Mr. Chairman, I would just say a couple things. I can remember at the beginning of my Senate race I, separated by 24 hours, received a briefing by the most eminent scientists in the world dealing with SDI, one group totally opposed to it, the next day a group totally in favor of it, both saying totally opposite things, both having people from the finest scientific communities in the country.

The same applies to the scientists in this regard. We have had, those of us from Nevada and I am sure Sasser and Mitchell from Maine, and I do not know about Senator Humphrey but I assume so, had these scientists come to us and tell us: Yes, they are in these casks, but you know what could go wrong.

So we have the horror stories——

The CHAIRMAN. What do they say could go wrong?

Senator REID. Well, there are a number of things, Mr. Chairman, especially when you realize that we are talking about—we are talking about hauling nuclear waste 3,000 miles to Nevada. We are talking about a nuclear accident happening on any one of these highways.

The CHAIRMAN. Well, what kind of an accident? We have not heard.

Senator REID. Well, but see, they have pictures—one of the objections that I have heard, they have pictures that they will show you of these little barrels in the back of a truck, and they run the truck into a wall and the barrels go flying off.

Well, some people in the scientific community do not believe the stuff in the barrel is that safe and that the barrels are that tightly configured that something would not get out. And if it were done in a heavily populated area on one of the highways or byways, it could cause problems. And not only that——

The CHAIRMAN. What kind of problems?

Senator REID. Well, radiation.

And I would also, Mr. Chairman——

The CHAIRMAN. That is right, but if the radiation——

Senator REID. I would also disagree with you. We have had in the past 6 months people at nuclear reactors being exposed to high level nuclear waste that have been injured. Now, I do not know if they are dead or they are going to die later, but they have been exposed.

The CHAIRMAN. Nuclear waste?

Senator REID. Yes.

The CHAIRMAN. Where is that?

Senator REID. I do not know, but certainly they are available. I read them in the paper, and they have been sent in from people in Nevada saying: See what can happen.

The CHAIRMAN. I wish you would furnish that testimony, that evidence. There have been discharges. There was radon gas discharged, of a minute amount, but nevertheless discharged, on Ohio. But I do not know of anyone injured from management of nuclear wastes. But I would be very interested in that.

I know it can happen.

Senator REID. And in addition to the divergence of opinion in the scientific community, we have the further problem, Mr. Chairman, that Nevada is a tourist-oriented economy. And we spent what limited resources we are able to generate to have people come to Nevada.

And when you hear figures like Senator Sasser—I will not quote the figures from Nevada—where the vast, vast majority of the people do not want it anywhere around them, it is just not good for tourism.

I would also say, back to your original question, and the reason your legislation deserves further observation, is that I am convinced in my own mind, based upon talking to people in the state of Nevada, looking at polls taken by all kinds of special interest groups in the state of Nevada, that the people of Nevada would never take high level nuclear wastes.

So at first glance your legislation gives—could give Nevada some home, because maybe, maybe I repeat, another state or one of the Indian tribe would want to take this, and that would get this problem off Nevada's back, which has been there for a considerable period of time.

And I also would close by just saying, Mr. Chairman, that if this stuff is so safe it should be easy to dispose of. Why is it not easy to dispose of? And I can remember one of the other Senators talking about how safe this was, but when he was asked if he would want it in his state the obvious answer was no.

But again, this does not take away from my admiration for you for the work that you are doing with this legislation.

The CHAIRMAN. Let me just say two quick things and then I have got to go to another meeting and Senator Hecht has agreed to chair the rest of the meeting. But let me just say two quick things.

First of all, with respect to, if it is so safe, why is it so hard to dispose of? Well, it is an interesting thing in this country. By playing to the perceived dangers, both in the regulatory way and S. 839 and legislation and all those things, we have treated it as if it is a very difficult scientific problem. The press has treated it as being a very difficult scientific problem. And so that perception becomes reality.

And the more we do to try to reassure, the safer we try to make it, that simply serves as evidence of the degree of danger. And it is not. It is evidence of the degree of care and the degree of safety which we want to have with it.

And S. 839 is not a measure of the degree of danger. It is a measure of the fact that we want to be generous and we want to help solve the Nation's problem.

But even beyond that, you know, we can debate and indeed the Nation will continue to debate the question of whether we ought to have nuclear power or not in this country. But really, that question has already been decided by the presence of over 100, I think it is 108, nuclear reactors, which grind out about 3,000 metric tons of nuclear wastes per year, which must find a home eventually.

I mean, there is not that much onsite storage capacity, even with reracking. And if there were, it would be not a good place to store it. I mean, then you have got the proliferation of problems and not the centralization, where management is easier, where standards can be higher.

And finally, we have a Nuclear Waste Policy Act in law. Nobody wants it. Yes, there is a NIMBY principle, which Nevada may not be willing to take nuclear wastes or no other State. But there is a Nuclear Waste Policy Act which says that eventually some state has got to, because it is there. It exists. It is not going away.

So I would urge you and Nevadans and others to look at the problem from that standpoint, that it is going to find a home. Inexorably it is going to find a home, and the Nuclear Waste Policy Act does not provide the benefits package that S. 839 does.

So this may be the last train leaving the station. I hope it leaves the station and does not just stay there permanently, because I think it is a chance to help Nevada, either because Nevada chooses or because Nevada does not choose and somebody else does. So I hope you will look at the bill from that standpoint.

Senator REID. I also think progress is being made. I think the fact that you have introduced this legislation is progress for us. The fact that Senator Hecht has introduced his legislation, the fact that Senator Sasser is here making his complaints known, and Senator Mitchell—I think that there is a possibility that the Nuclear Waste Policy Act could be changed in addition to your change.

But anyway, thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Reid.

Senator Hecht may have some.

Senator HECHT [presiding]. We have some distinguished individuals from Nevada, so let us go right on.

Would Commissioner Dondero from Clark County, Nevada, and Mr. Larry Bender, representing the city of Las Vegas, please come up.

We are happy to have you, Commissioner. You made a long trip back here. I know what it is. I take the trip nearly every weekend. And so, in spite of your jet lag, we are anxious to hear from you.

STATEMENT OF THALIA DONDERO, COMMISSIONER AND MEMBER, NEVADA COMMISSION ON NUCLEAR PROJECTS, ACCOMPANIED BY DENNIS BECHTEL, PLANNING COORDINATOR, CLARK COUNTY DEPARTMENT OF COMPREHENSIVE PLANNING

Ms. DONDERO. Thank you very much, Senator Hecht. We are very happy to be here.

First of all, for the record I have some written testimony which I will leave with you.

Senator HECHT. It will be a part of the record.

Ms. DONDERO. But before I begin, I would like to describe my position, the county which I represent, which is Clark County. And of course, it is a large county, 8,000 square miles, and it has 60 percent of all the population of the State of Nevada.

And I have been County Commissioner for the last 13 years. I am also a member of the State of Nevada Commission on Nuclear

Projects. I am also a member of the National Association, Board of Directors, of County Representatives.

But I have been listening to the testimony that has been given here today and I seem to be hearing two different things that disturb me somewhat, because I am deeply concerned that the amendments to the act are diluting the effectiveness of a piece of legislation that was meant to solve a serious national problem.

But it indicates that they are offering the state that is willing to accept the nuclear waste a large sum of money, yet and they can say yes or no. Yet I felt that the Act was there to be sure that that placement of the nuclear waste was in a safe place, that it was not going to contaminate nor was it going to be harmful to the people anyplace in the United States. And I think that that is an important point.

But I think that we as citizens of Nevada have some very big concerns relating to the storage of the nuclear wastes. And number one, of course, is transportation of the radioactive waste material and the potential impact of the repository and what it means to the local citizens of any county in Nevada.

And of course, the metropolitan area of Las Vegas certainly has a potential of having all of the waste. If it goes through in trucks or on rail, then it would go through the middle of the community. And I think that that is a big concern of anyone.

The other one is that it would go over Hoover Dam, which has a winding road, and certainly that is not desirable. I think that there needs to be a new bridge crossing in that area.

But the citizens of the state of Nevada I think are very, very concerned about their safety, what it would do to our tourism industry. I think that tourism is certainly a big part of our economy and we should protect that at all costs, because in any one day we might have another 100,000 people from all over the United States visiting us, or from all over the world.

[The prepared statement of Ms. Dondero follows:]

TESTIMONY OF THALIA DONDERO,
CLARK COUNTY, NEVADA, COMMISSIONER AND MEMBER
OF STATE OF NEVADA COMMISSION ON NUCLEAR PROJECTS

UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
WASHINGTON, D.C.

MAY 7, 1987

TO BE ENTERED INTO THE RECORD

MR. CHAIRMAN AND MEMBERS OF THE ENERGY AND NATURAL RESOURCES COMMITTEE, I APPRECIATE THE OPPORTUNITY TO PRESENT TESTIMONY TO THE COMMITTEE THIS MORNING CONCERNING THE PROPOSED NUCLEAR WASTE POLICY AMENDMENTS ACT OF 1987.

I AM TESTIFYING TODAY BECAUSE I AM DEEPLY CONCERNED THAT THE PROPOSED AMENDMENTS TO THE ACT ARE FURTHER DILUTING THE EFFECTIVENESS OF A PIECE OF LEGISLATION THAT WAS MEANT TO SOLVE A SERIOUS NATIONAL PROBLEM IN A SOUND TECHNICAL MANNER. THIS AMENDMENT REFLECTS THE SERIOUS FRUSTRATIONS THAT WE HAVE ALL FELT IN A PROGRAM THAT HAS BEEN THE VICTIM OF SERIOUS MISTAKES OVER THE PAST SEVERAL YEARS. WE DO NOT FEEL, HOWEVER, THAT THE AMENDMENTS AS PROPOSED OFFER A SOLUTION TO A PROGRAM OF EXTREME COMPLEXITY. I HOPE THAT MY TESTIMONY THIS MORNING CAN AID IN PUTTING THE PROGRAM, WHICH IS IN SERIOUS TROUBLE, BACK ON ITS INTENDED COURSE. I ALSO HOPE THAT MY COMMENTS CAN ASSIST THE COMMITTEE IN UNDERSTANDING OUR POSITION AS A LOCAL GOVERNMENT.

CLARK COUNTY AND THE NUCLEAR WASTE REPOSITORY PROGRAM

BEFORE I BEGIN, LET ME DESCRIBE MY POSITION AND THE COUNTY I REPRESENT. CLARK COUNTY, FOR YOUR INFORMATION, IS LOCATED IMMEDIATELY ADJACENT TO THE PROPOSED REPOSITORY SITE IN NYE COUNTY. I HAVE BEEN A COUNTY COMMISSIONER IN CLARK COUNTY, WHICH ENCOMPASSES THE CITY OF LAS VEGAS AND INCLUDES 60 PERCENT OF NEVADA'S POPULATION, FOR THE LAST THIRTEEN YEARS. I AM ALSO A MEMBER OF THE STATE OF NEVADA COMMISSION ON NUCLEAR PROJECTS WHICH HAS BEEN ACTIVELY INVOLVED IN ANALYZING A HOST OF ISSUES RELATIVE TO THE NUCLEAR WASTE PROGRAM.

IN CONSIDERING THE NUCLEAR WASTE REPOSITORY PROGRAM, OUR PRIMARY CONCERN AND RESPONSIBILITY IS WITH THE SAFETY OF OUR CITIZENS. OTHERS RELATE TO THE ADEQUACY OF THE SITE, TRANSPORTATION OF THE RADIOACTIVE WASTE MATERIAL AND THE POTENTIAL IMPACT OF THE REPOSITORY AND ASSOCIATED ACTIVITIES ON OUR ECONOMY.

TRANSPORTATION

THE TRANSPORTATION OF HIGH-LEVEL RADIOACTIVE MATERIAL IS A QUESTION THAT GREATLY CONCERNS LOCAL CITIZENS AND OFFICIALS IN THE LAS VEGAS METROPOLITAN AREA. THE DEPARTMENT OF ENERGY'S FINAL ENVIRONMENTAL ASSESSMENT FOR THE YUCCA MOUNTAIN SITE, FOR EXAMPLE, DESCRIBES THE TRANSPORT OF THOUSANDS OF SHIPMENTS OF SPENT FUEL AND HIGH-LEVEL WASTE THROUGH DOWNTOWN LAS VEGAS AND OVER HOOVER DAM (THE APPROPRIATE PAGES OF THE FINAL DEPARTMENT OF ENERGY ENVIRONMENTAL ASSESSMENT ARE ATTACHED FOR YOUR REVIEW) SUCH CONCERNS ARE NOT HYSTERIA, BUT REFLECT A NEED AS AN ELECTED OFFICIAL TO ENSURE THAT THE CITIZENS OF OUR AREA OR ANY AREA WILL NOT BE UNDULY HARMED BY AN ACCIDENT NOR HAVE THEIR QUALITY OF LIFE LESSENED.

IN ADDITION TO THE SAFETY OF OUR CITIZENS, ANOTHER MAJOR CONCERN PRESENT IS THE IMPACT OF THE PROJECT TO OUR BASIC ECONOMY - TOURISM. WILL THE PROJECT, FOR EXAMPLE, ADVERSELY IMPACT A PERSON OR CORPORATION'S DECISION TO VISIT OR SITE A FACILITY IN LAS VEGAS, NEVADA.

OTHER IMPACTS WHICH CAUSE US CONCERN RELATE TO THE NEED TO PROVIDE LOCAL SERVICES (SCHOOLS, POLICE, FIRE AND OTHERS) FOR THE INFLUX OF THOUSANDS OF WORKERS TO OUR AREA. PAST TRENDS IN OTHER DEPARTMENT OF ENERGY PROGRAMS, FOR EXAMPLE, INDICATE THAT A CONSIDERABLE AMOUNT OF THE IMPACTS FROM THE NUCLEAR WASTE REPOSITORY PROGRAM WILL BE EXPERIENCED IN

CLARK COUNTY. AS AN EXAMPLE, MOST WORKERS IN THE WEAPONS TESTING PROGRAM RESIDE IN CLARK COUNTY AND COMMUTE TO THE TEST SITE.

THE "AMENDMENTS"

OUR IMMEDIATE CONCERN, HOWEVER, IS WITH THE PROPOSED "NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987." AS AN AFFECTED LOCAL COMMUNITY WE HAVE STRONG RESERVATIONS ABOUT THE PROPOSED BILL.

ON THE ONE HAND WE COMMEND THE COMMITTEE FOR RECOGNIZING THAT COMPENSATION SHOULD BE PROVIDED TO THE SITE SELECTED AS THE REPOSITORY. THIS IS ONE IMPORTANT ELEMENT THAT IS MISSING FROM THE NUCLEAR WASTE POLICY ACT. WE AGREE WITH THE COMMITTEE THAT IT IS EXTREMELY IMPORTANT THAT THE STATE IN WHICH A REPOSITORY SITE IS FOUND TO BE TECHNICALLY QUALIFIED TO STORE NUCLEAR WASTE IS COMPENSATED FOR ACCEPTING THE MATERIAL. THE HOST SITE (OR SITES IF THE NECESSARY SECOND REPOSITORY IS CONSIDERED) IS IN ESSENCE SOLVING THE NUCLEAR WASTE PROBLEMS OF THOSE COMMUNITIES BENEFITING FROM THE GENERATION OF NUCLEAR POWER. COMPENSATION, THEREFORE, IS ENTIRELY APPROPRIATE.

ON THE OTHER HAND, HOWEVER, WE FEEL THAT THE PROPOSED COMPENSATION BILL IS PREMATURE. IT IS NOT PREMATURE IN BEING CONSIDERED. IT IS PREMATURE IN THE SENSE THAT IT OFFERS THE OPPORTUNITY TO "POLITICIZE" A PROGRAM THAT SHOULD NOT BE POLITICIZED UNTIL THE TECHNICAL STUDIES ARE COMPLETED.
WE, WHO HAVE DELIBERATED WITH OTHERS IN THE STATE OF NEVADA AND OTHER STATES AND WHO WILL HAVE TO LIVE WITH THE DECISIONS EMANATING FROM IMPLEMENTATION OF THE ACT, HAVE RECOGNIZED THAT THERE ARE SERIOUS TECHNICAL

AND INSTITUTIONAL FLAWS IN THE PROGRAM THAT NEED TO BE CORRECTED. MANY OF THESE TECHNICAL UNCERTAINTIES HAVE BEEN ISOLATED BY THE STATE OF NEVADA. ISSUES SUCH AS IMPACT ON THE ENVIRONMENT, EFFECT ON SCARCE WATER RESOURCES IN A WATER-POOR STATE SUCH AS NEVADA AND THE POTENTIAL LOSS OF VALUABLE MINERAL RESOURCES AMONG OTHERS DEMAND A STRONG OVERSIGHT ROLE FOR STATE AND LOCAL GOVERNMENTS. LIKEWISE, OFF-SITE, SOCIO-ECONOMIC ISSUES, THE TYPE THAT WILL INFLUENCE THOSE RESIDENTS THAT WILL HAVE TO LIVE WITH THE RESULTS OF THE ACT SHOULD BE CONSIDERED. WITH THAT AS A STATEMENT OF OUR CONCERNS WE OFFER THE FOLLOWING COMMENTS AND RECOMMENDATIONS THAT RELATE TO SENATE BILL 839. THIS COMMITTEE SHOULD NOTE THAT THE CLARK COUNTY COMMISSION HAS TAKEN A STRONG STAND OPPOSING THE LOCATION OF THE REPOSITORY IN NEVADA. OUR COMMENTS DO NOT IN ANY WAY DETRACT FROM THAT OPPOSITION.

1) CLARK COUNTY BELIEVES THAT ECONOMIC INCENTIVES ARE MANDATORY FOR THE SITES THAT ARE SELECTED AS REPOSITORIES. IF COMPENSATION IS TO BE LEGISLATED, HOWEVER, IT SHOULD BE TIED TO THE PROCESS AND ANALYSES PRESCRIBED IN THE CURRENT NUCLEAR WASTE POLICY ACT. COMPENSATION SHOULD, THEREFORE, BE DELIBERATED ONCE TECHNICAL STUDIES ARE COMPLETED.

2) THE AMENDMENTS SHOULD NOT CONTRIBUTE TO THE CIRCUMVENTION OF THE ORIGINAL INTENT OF THE ACT: THE SHARING OF THE NUCLEAR WASTE BETWEEN TWO SITES EAST AND WEST SHOULD NOT BE FURTHER COMPROMISED.

3) THE PROPOSED AMENDMENTS PROVIDE THAT AFFECTED LOCAL GOVERNMENTS SHOULD SHARE IN COMPENSATORY PAYMENTS. THE COMMITTEE SHOULD NOT LOSE SIGHT OF THE FACT THAT, DESPITE PREVIOUS TESTIMONY, THE EFFECTS OF A PROPOSED REPOSITORY GO BEYOND THE LOCATION OF THE SITE COUNTY AND AFFECT THE STATE IN WHICH THE REPOSITORY IS LOCATED, AS WELL AS ADJACENT LOCAL GOVERNMENTS SUCH AS CLARK COUNTY. TRANSPORTATION IS ONE FACET OF THE PROGRAM THAT PROVIDES THE POTENTIAL FOR SEVERE IMPACT WHICH GOES BEYOND THE LOCATION OF THE SITE COUNTY.

4) SECTION 402 (b)(3) PROVIDES THAT A STATE MUST WAIVE ITS RIGHTS TO SEEK JUDICIAL REVIEW UNDER THE PROPOSED AMENDMENTS. THIS PROVISION ALONE WOULD APPEAR TO MAKE A STATE OR INDIAN TRIBE HESITANT TO ACCEPT THE INCENTIVES OFFERED. GIVEN THE PROBLEMS THAT HAVE OCCURRED IN THE CURRENT DOE PROGRAM IT IS CERTAIN THAT THE TRUST OR CONFIDENCE IS NO LONGER PRESENT EVEN FOR AN ENTITY AMPLY COMPENSATED FOR THE REPOSITORY. THIS SECTION SHOULD BE REMOVED.

5) THE AMOUNT OF COMPENSATION REMAINS CONSTANT THROUGHOUT THE PROGRAM. IN ORDER TO ENSURE TRUE COMPENSATION FOR A STATE OR INDIAN TRIBE THE AMOUNT SHOULD BE IN REAL DOLLARS. A PROVISION SHOULD BE INCLUDED TO INDEX THE INCENTIVE FUND TO ACCOUNT FOR INFLATION.

6) SECTION 222 OF THE NUCLEAR WASTE POLICY ACT RECOGNIZES THAT THERE ARE ALTERNATIVE TECHNOLOGIES THAT MAY BE EMPLOYED TO EITHER STORE OR NEUTRALIZE THE NUCLEAR WASTE. WE SHOULD BENEFIT FROM THE EXPERIENCE OF OTHERS IN RESOLVING THIS SERIOUS NATIONAL PROBLEM. CREATING A COMMITTEE OF AUTHORITIES, PERHAPS AN INTERNATIONAL PANEL OF QUALIFIED PERSONNEL, MAY ENSURE THAT THE BEST STORAGE OR TREATMENT ALTERNATIVE IS SELECTED.

TO CONCLUDE, WE TRUST THAT OUR COMMENTS ARE CONSTRUCTIVE TO THE WORK OF THE COMMITTEE. DESPITE ITS POSITIVE INTENTIONS, THE BILL, UNFORTUNATELY, OFFERS A POTENTIAL QUICK FIX THAT DOES NOT ADDRESS THE SPIRIT OR INTENT OF THE N.W.P.A. OF 1982, NOR IS IT UNLIKELY TO FIX THE MAJOR PROBLEMS IN THE PROGRAM. JUST AS CONGRESS HAS RECOGNIZED IN THE PAST TECHNICAL UNCERTAINTIES IN LEGISLATION SUCH AS THE "CLEAN WATER ACT" AND "CLEAN AIR ACT" WHICH REQUIRED ADDITIONAL ANALYSIS, CONGRESS CAN DO NO LESS IN A PROGRAM OF SUCH VAST SIGNIFICANCE TO THE PUBLIC. THE PROPER TIME FRAME TO ADDRESS COMPENSATION, WOULD BE SUBSEQUENT TO THE COMPLETION OF THE TECHNICAL STUDIES AS SPECIFIED UNDER THE NUCLEAR WASTE POLICY ACT, AND NOT BEFORE.

THE BILL AS PROPOSED, THEREFORE, OPENS THE DOOR TO A POLITICAL SOLUTION IN A PROCESS THAT WAS MEANT TO SELECT BY TECHNICAL MEANS A SUITABLE SITE FOR THE LONG-TERM STORAGE OF A HIGHLY-DANGEROUS MATERIAL.

IN SUMMARY, WE WOULD URGE YOU TO CAREFULLY DELIBERATE THIS BILL AND THE FULL RANGE OF ITS IMPLICATIONS. WE CAUTION YOU TO REMEMBER THAT THE SELECTION OF A SITE REQUIRES A STRONG TECHNICAL BASIS. AS CITED IN THE ACT, MANY STUDIES FOR A NUMBER OF SITES NEED TO BE COMPLETED BEFORE A SITE CAN TRULY BE CONSIDERED AS "SUITABLE." THESE ARE LOGICAL FIRST STEPS TO TAKE. THE PROGRAM AS ENVISIONED IN THE ACT SHOULD BE ALLOWED TO PROCEED TO COMPLETION.

I AM APPRECIATIVE OF THE OPPORTUNITY TO TESTIFY IN FRONT OF THE COMMITTEE THIS MORNING. IF YOU HAVE QUESTIONS, I OR MY STAFF WILL BE HAPPY TO RESPOND.

THANK YOU.

DOE/RW-0073
Volume 1 of 3

Nuclear Waste Policy Act
(Section 112)

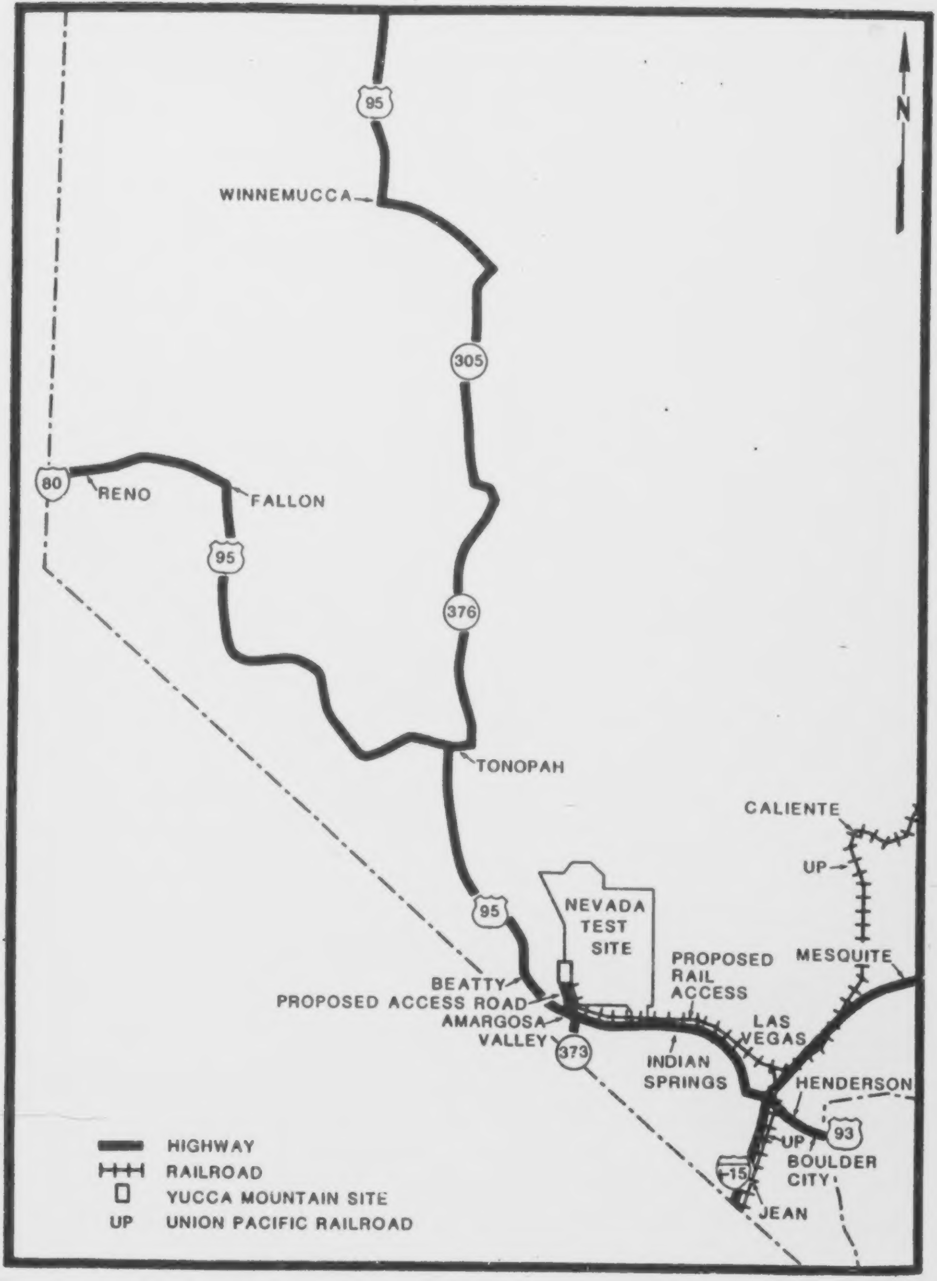
Environmental Assessment

Yucca Mountain Site, Nevada Research and Development Area, Nevada

Volume I

May 1986

U.S. Department of Energy
Office of Civilian Radioactive Waste Management
Washington, DC 20585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TEST
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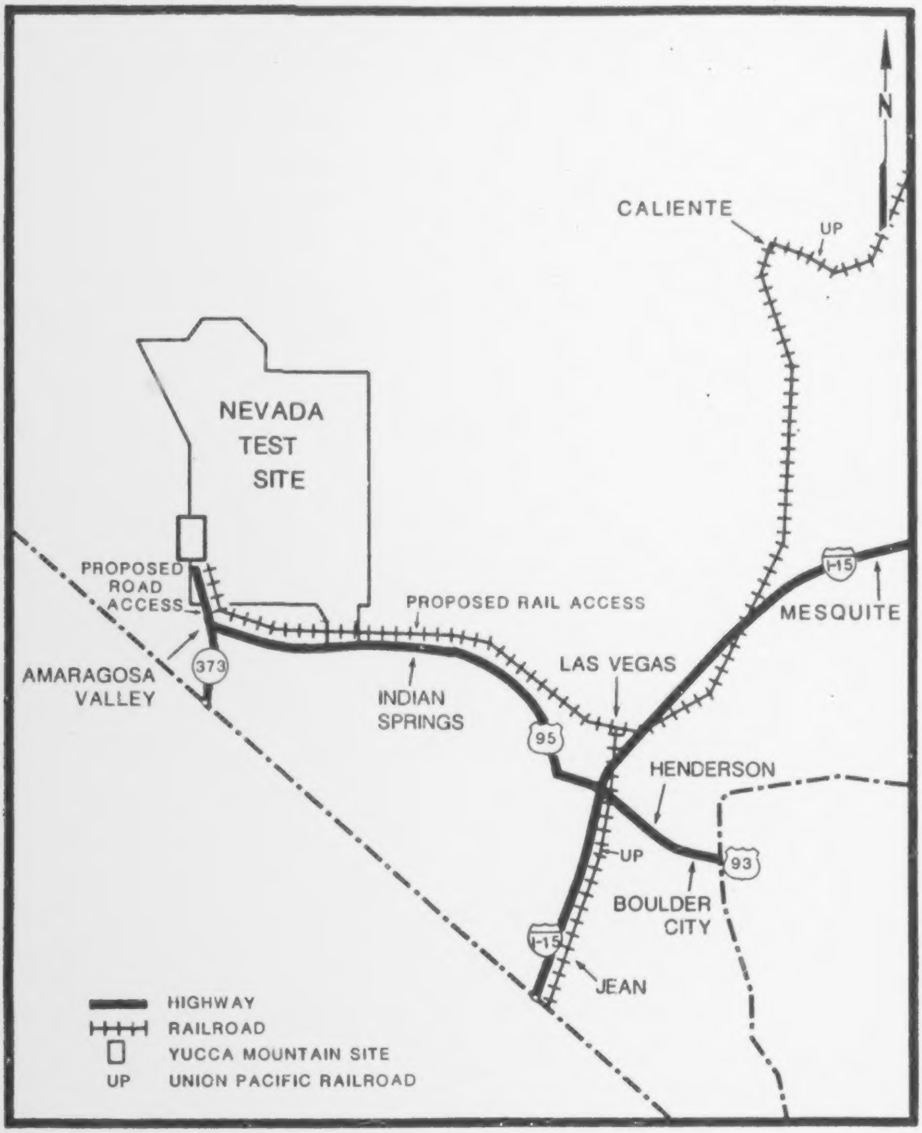
PROPOSED
RAIL
ACCESS
MESQUITE
BEATTY
PROPOSED ACCESS ROAD
AMARGOSA
VALLEY
373
INDIAN
SPRINGS
LAS
VEGAS
HENDERSON
93
UP
BOULDER
CITY
15
JEAN
HIGHWAY
RAILROAD
YUCCA MOUNTAIN SITE
UP UNION PACIFIC RAILROAD

Figure 5-9. Regional routing scenario I.


N
CALIENTE
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NEVADA TEST SITE
PROPOSED ROAD ACCESS
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I-15
MESQUITE
AMARAGOSA VALLEY
373
INDIAN SPRINGS
LAS VEGAS
95
HENDERSON
UP
93
BOULDER CITY
I-15
JEAN
HIGHWAY
RAILROAD
YUCCA MOUNTAIN SITE
UP UNION PACIFIC RAILROAD

Figure 5-10. Regional routing scenario II.

Table 5-35. Summary of waste routing scenarios used for regional impact analysis

Without monitored retrievable storage	Number of shipments			
	100% TRUCK			
	Scenario I		Scenario II	
Highway[a] Route	Spent fuel	HLW[b]	Spent fuel	HLW
I-15S[c]	36,583	9,800	38,574	12,050
I-15N	7,544	0	9,722	0
U.S. 93N	22,257	11,600	22,257	11,600
I-80E	807	0	0	0
U.S. 95S	1,991	2,250	0	0
S.R. 373N	1,371	0	0	0
TOTAL	70,553	23,650	70,553	23,650
	100% RAIL			
	Scenario I		Scenario II	
Rail route[d]	Spent fuel	HLW	Spent fuel	HLW
UPW	7,298	4,685	7,298	4,685
UPE	2,629	0	2,629	0
TOTAL	9,927	4,685	9,927	4,685

With monitored retreivable storage				
	100% TRUCK			
	Scenario I		Scenario II	
Highway[a] route	Spent fuel	HLW	Spent fuel	HLW
I-15S	0	9,800	1,991	12,050
I-15N	1,443	0	3,621	0
U.S. 93N	0	11,600	0	11,600
I-80E	807	0	0	0
U.S. 95S	1,991	2,250	0	0
S.R. 373N	1,371	0	0	0
TOTAL	5,612	23,650	5,612	23,650
	100% RAIL			
	Scenario I		Scenario II	
Rail route[d]	Spent Fuel	HLW	Spent Fuel	HLW
UPW 235	4,685	235	4,685	
UPE 535	0	535	0	
UPW-CSF	8,050	-	8,050	-
UPW-SW	2,793	-	2,793	-
TOTAL	11,613	4,685	11,613	4,685

[a] I = Interstate Highway; US = U.S. Highway; S.R. = State Route

[b] HLW = Defense and West Valley high-level waste

[c] Last letter in route designation denotes direction of travel.

[d] UP = Union Pacific; CSF = consolidated and overpacked spent fuel; SW = secondary waste.

Senator HECHT. Let me interrupt you one moment just for the record, because it is in conjunction with what you are talking about. I have introduced legislation so the nuclear waste shipments would not go through the heart of the cities, but would have to be rerouted around the cities.

Ms. DONDERO. Well, I think that that is commendable, because I think that that is a big concern of anyone who lives in that area, and also the fact that it might be harmful to our tourism and convention business. I think that is a big concern.

Senator HECHT. And it is very dangerous going over Hoover Dam.

Ms. DONDERO. Yes, it is.

Senator HECHT. That would be prohibited, too.

Ms. DONDERO. And as I indicated, I have been a proponent of a new bridge crossing so that it would not go into that particular winding road over the dam.

Senator HECHT. Furthermore, I am against any type of hazardous materials going over Hoover Dam. I have been over that road enough and it is too much of a chance of an accident occurring involving a truck carrying hazardous materials that might explode. It would be very dangerous.

Ms. DONDERO. And I think that what we are looking at is that the repository site is to be found as technically qualified to accept and store the nuclear wastes before any compensation for any material is given. I do not know what kind of strings would be attached to any compensation. I do not know that.

I do not know, if it is derived from the sale to citizens or the users of the nuclear energy, that that might drive up the cost of that energy to those people that are using it. And if that is true, would they be somehow resentful of us getting that money in the State of Nevada to handle the nuclear wastes?

And I feel that that part of it is unclear to me, with respect to how that is going to be worked out.

I feel that it is a little bit premature in offering the state of Nevada the compensation. And I have gotten way away from my testimony, but I do believe that what I was hearing here this morning kind of puts a different light on what we are seeing back home and in a state that is being considered as probably the only site.

And I always feel that probably that site should be where it is generated, because we do not generate any of the nuclear wastes.

Senator HECHT. I understand in Europe, Sweden especially, they use seabed disposal. And right close to the nuclear reactor, they are using the deep seabed. So there are alternatives other than 2,000 feet in granite or something like that.

Ms. DONDERO. Well, I am sure that I would like to see what their programs are in other countries where they are reprocessing and storing above-ground, not down in the depths of the ground where you do not really know what is happening.

I am probably not going to be around for the next 100 years to find out what happens in the next stages of any repository.

Senator HECHT. Thank you.

Mr. Bender, do you have a statement?

STATEMENT OF RON LURIE, MAYOR PRO TEM, LAS VEGAS, NV, AS PRESENTED BY LARRY BENDER, SENIOR DEVELOPMENT OFFICER, DEPARTMENT OF URBAN AND ECONOMIC DEVELOPMENT, CITY OF LAS VEGAS, NV

Mr. **Bender.** Senator Hecht, I am Larry Bender for the city of Las Vegas, testifying in behalf of Ron Lurie, Mayor Pro Tem.

As you know, representatives of the City of Las Vegas were in Washington, DC, throughout the April 28 and 29 Senate Energy Committee hearings and have returned today because the nuclear waste issue in general and Senate bill 839 in particular are of extreme concern to the entire Las Vegas metropolitan area.

I would like to take this opportunity to reiterate our community's major concerns and highlight some of the comments from witnesses at last week's hearings which I feel are particularly enlightening.

First, it has always been Las Vegas' position that the most critical aspect of the entire nuclear waste program is the determination of the safest, most suitable site. It must be emphasized that this philosophy is not derived from a "not in my back yard" attitude, but rather it echoes the Nuclear Waste Policy Act, which mandates scientific and technical characterization of three sites.

As Hugh Thompson of the Nuclear Regulatory Commission so aptly put it, there are still legitimate technical issues on all three sites which must be overcome.

Las Vegas' scientific concerns were outlined in previous testimony, but primarily focus on the potential for an earthquake during the lifetime of the repository, unknowns regarding groundwater travel, nearby atomic weapons testing, and the possibilities for the degradation of water resources for human consumption or crop irrigation.

Governor Richard Bryan's April 29th testimony before this Committee explained these concerns in detail, so there is no reason for me to repeat these issues today. However, what is important to stress is that Las Vegas believes there are still serious technical questions at Yucca Mountain which need to be answered before economic incentives are discussed.

Second, Las Vegas is located approximately 100 miles southeast of Yucca Mountain and is the central city in the metropolitan area's rapidly growing population of 550,000. And the issue of safety is the foremost nuclear waste consideration on the minds of these citizens.

Unlike many cities in the East, all major interstates, U.S. highways, and mainline rail tracks which will be used to ship nuclear wastes to southern Nevada intercept or traverse Las Vegas. Further, Union Pacific's rail yard, which is used to store, switch, and assemble trains, is located within 100 yards of Las Vegas' central business district.

There was substantial testimony at last week's hearings concerning the construction of one or several monitored retrievable storage facilities. Las Vegas feels these comments have substantial merit, as that would increase safety both in storage and in shipping.

Dr. Alvin Weinberg of the Institute for Energy Analysis suggested that a monitored retrievable storage facility could safely store radioactive waste for 50 years. He added that the longer you hold the waste above ground, the less difficult it is to store.

Ben Rusche of the Department of Energy stated that storage in a monitored retrievable storage facility would naturally reduce heat and radioactivity over time, and should be the first step in any comprehensive nuclear waste system. He also added that a monitored retrievable storage facility could begin to receive waste by 1998 and could start exceeding the rate waste is being generated within eight years.

Finally, this system is currently in use and operating safely and effectively in France and Sweden, as you well know.

Las Vegas supports efforts to construct a monitored retrievable storage facility which can accommodate nuclear wastes for up to 50 years. If the wastes were stored right at the nuclear powerplants where it is generated, substantial shipping could be avoided.

If one monitored retrievable storage facility were built and all the wastes consolidated in the East, where the vast majority is produced, the primary transportation mode would shift to rail. With more casks able to be shipped by train than by truck, the number of shipments and likelihood for accidents would be reduced.

A monitored retrievable storage system would also provide the country with a breathing space it currently does not have due to the Nuclear Waste Policy Act's mandated deadline for opening of a geological repository.

Currently, the country is locked into geological disposal, where other options may be more suitable. For example, it was continually emphasized at last week's hearings that reprocessing in this country is not economical.

However, with the monitored retrievable storage facility, if reprocessing does become feasible the radioactive material will be readily retrievable.

Senator HECHT. Excuse me. I want to interrupt you.

Mr. BENDER. Go ahead.

Senator HECHT. I always take opposition to the fact that it is not economically feasible, and I just recently pointed out that we raise wheat in this country and we sell it at subsidized cost because it is not economically feasible to raise wheat.

So there are many, many arguments on this, and that is one of the reasons that I have been a strong proponent of reprocessing.

Mr. BENDER. Especially when it comes to safety.

Senator HECHT. When it comes to safety. I am not on the Agriculture Committee, but I assume we subsidize soybeans and carrots, whatever. I do not know what it is, but I do know that something like $30 billion in farm programs, so there is a lot of subsidizing.

Please continue.

Mr. BENDER. Thank you.

With regard to the important issue of credibility, I would like to echo Governor Bryan's concerns about the lack of credibility remaining in the nuclear waste program. A recent Nevada poll disclosed that a vast majority of residents were opposed to the nuclear waste repository. Yet, at the same time they believe it is going to be located in Nevada.

This attitude crystallized in Las Vegas after the decision of the Department of Energy to cancel the search for a second repository in the East. As Governor Bryan said: "This decision merely illustrates the typical Department of Energy attitude and actions the affected states have experienced from the program's inception."

This lack of credibility is directly contrary to the original intent of the Nuclear Waste Policy Act, which was designed to be a regionally balanced, fair and technically sound siting process.

And while Nevada has been attempting to faithfully carry out the provisions of this act, Senate bill 839 again places political expediency before technical suitability. Las Vegas' position has always been that you cannot buy public trust and safety at any price.

Finally, I would like to address Senate bill 839 directly. The city of Las Vegas has two primary problems with this bill.

First, the city feels the siting of the Nation's first nuclear waste repository is fundamentally a technical and scientific problem, not a political problem as it has been talked about today. We feel that this bill changes the entire focus of the search from an objective, analytical, scientific approach to one which revolves around political expediency and greed.

We feel it is irresponsible to make a technical decision based on compensation. While we believe that whatever state is selected warrants the compensation being discussed, we also believe it is premature to discuss economic incentives until the safest, most suitable site has been identified.

Secondly, the City is concerned about the provision in Senate bill 839 which, to save money, would limit site characterization to only one location. Frank Parker of the National Academy of Sciences stated that he thought the selection process should continue to concentrate on three sites.

Echoing this view, Ben Rusche suggested that characterizing only one site would be a gamble. He stated that money would be saved in the short run by halting site characterization of two of the three sites; however, if the site being characterized proved to be unlicensable by the Nuclear Regulatory Commission, it would ultimately cost more money and create long delays. At that point, the Department of Energy would basically be starting over.

It is Las Vegas' position that deciding to characterize only one site is unwise and that the best approach is to simply follow the process Congress provided in the original act.

Sentor HECHT. Excuse me just a second. What Congress provided in the original Act, you could take nuclear fuel, spent fuel, and put it into the ground after 5 years. The bill that I introduced yesterday would say that no nuclear spent fuel could be put into the ground until it is cooled down for a 50-year period.

In fact, I have some charts with me. You can see that it dramatically shows how the cooling off period works for the first 50 years.

This is exactly the way Europe handles it. They do not want to move it. They do not want to handle it, because after 50 years it is much easier to handle. The casings around it are much different. You can put much more in a compact area, and it changes the whole complexity by allowing it to cool down.

And of course, safety is the paramount reason for doing that.

Mr. **Bender**. I have not seen your bill, but I am sure that——

Sentor **Hecht**. It is just a simple bill: You have to let the spent fuel cool down for 50 years. There is a lot of scientific reason for it, because that is the way Europe does it, and they are very successful.

Mr. **Bender**. Regarding compensation, if the amount of money proposed in Senate bill 839 is actually available, Las Vegas feels it should be directed to alternative methods and options for handling nuclear waste.

For example, in a recent study of the methods which major countries are using to handle their nuclear wastes, only the United States and Canada do not reprocess it. If funds were spent on reprocessing on a volume basis, there would be less radioactive waste.

If reprocessing were combined with vitrification, the wastes would then be inert with respect to the natural environment, more suitable for storage, and have less chance of coming in contact with the environment.

It is the city's understanding that the reason reprocessing has not been considered is simply lack of money. This bill, S. 839, seems to us to remove this obstacle.

To summarize, the city of Las Vegas strongly supports the completion of Texas', Washington's, and Nevada's technical studies which were mandated in the Nuclear Waste Policy Act of 1982. Before economic incentives are considered, the studies which focus on locating the safest, most suitable site for the Nation's first repository must be completed.

Sentor **Hecht**. Excuse me just a second. Now, Senator Johnston said that once those sites are done the money is used, so you would not get the economic compensation.

Mr. **Bender**. That is what he is suggesting. What we are suggesting is that the debate should not focus on the compensation, the debate should stay around safety. And what he is suggesting is by characterizing only one site, that there is money to pay for it.

However, if that site is eventually found unlicensable, you have created long delays and you are also going to spend a lot more money in the long run.

Sentor **Hecht**. But you cannot have both. I just heard it, like you did, a few minutes ago. He said you cannot have both. If you are going to get the money up front, then you cannot wait.

Mr. **Bender**. I think it would be the position of Las Vegas, if you cannot have both, that you should err on the side of safety as opposed to compensation.

Sentor **Hecht**. I just wanted to clarify that and you clarified it for me. Thank you very much.

Mr. **Bender**. Thank you.

Second, selecting Yucca Mountain by political default dispenses with all public participation and objectivity, which was initially the cornerstone of the Nuclear Waste Policy Act. The fact that an economic incentive bill has been introduced tacitly acknowledges that public acceptance of one site through the high integrity involved in the selection process has become a casualty of the Department of Energy's inept siting process.

Third, whether or not Yucca Mountain is finally selected, the Department of Energy must assure the city of Las Vegas that all shipments of radioactive material, beginning with the waste isolation pilot plant shipments to New Mexico beginning in 1990, are absolutely safe.

Fourth, while economic incentives are warranted to any state which is objectively selected, a substantial portion of the available revenues should focus on alternative methods of handling nuclear wastes, with the paramount concern of safety, not money.

Finally, the city of Las Vegas believes that this hearing was prompted because the handling of the nuclear waste program by the Department of Energy is in total disarray. Unfortunately, there is no quick fix. If the experience of the sixties taught us anything, it should have taught us that difficult and seemingly intractable problems are not solved, nor do they disappear, simply by throwing large sums of money at them.

On the contrary, the usual result is the expenditure of huge sums over several years, the inbreeding of a new and perpetual program, and a solution no closer than when the program began. The city of Las Vegas hopes that these past mistakes are not repeated.

Those are my final written comments, and I appreciate your patience in letting me read them into the record.

[The prepared statement of Mr. Lurie follows:]

TESTIMONY OF RON LURIE, MAYOR PRO-TEM

CITY OF LAS VEGAS, NEVADA

BEFORE THE

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

MAY 7, 1987

REPRESENTATIVES OF THE CITY OF LAS VEGAS WERE IN WASHINGTON, D.C. THROUGHOUT THE APRIL 28 AND 29 SENATE ENERGY COMMITTEE HEARINGS, AND HAVE RETURNED TODAY, BECAUSE THE NUCLEAR WASTE ISSUE IN GENERAL, AND SENATE BILL 839 IN PARTICULAR ARE OF EXTREME CONCERN TO THE ENTIRE LAS VEGAS METROPOLITAN AREA. I WOULD LIKE TO TAKE THIS OPPORTUNITY TO REITERATE OUR COMMUNITY'S MAJOR CONCERNS, AND HIGHLIGHT SOME OF THE COMMENTS FROM WITNESSES AT LAST WEEK'S HEARINGS, WHICH I FEEL ARE PARTICULARLY ENLIGHTENING.

FIRST, IT HAS ALWAYS BEEN LAS VEGAS' POSITION THAT THE MOST CRITICAL ASPECT OF THE ENTIRE NUCLEAR WASTE PROGRAM IS THE DETERMINATION OF THE SAFEST, MOST SUITABLE SITE. IT MUST BE EMPHASIZED THAT THIS PHILOSOPHY IS NOT DERIVED FROM A "NOT IN MY BACK YARD" ATTITUDE BUT, RATHER, IT ECHOES THE NUCLEAR WASTE POLICY ACT, WHICH MANDATES SCIENTIFIC AND TECHNICAL CHARACTERIZATION OF THREE SITES. AS HUGH THOMPSON OF THE NUCLEAR REGULATORY COMMISSION SO APTLY PUT IT, "THERE ARE STILL LEGITIMATE TECHNICAL ISSUES ON ALL THREE SITES WHICH MUST BE OVERCOME."

LAS VEGAS' SCIENTIFIC CONCERNS WERE OUTLINED IN PREVIOUS TESTIMONY, BUT PRIMARILY FOCUS ON THE POTENTIAL FOR AN EARTHQUAKE DURING THE LIFETIME OF THE REPOSITORY, UNKNOWNS REGARDING

GROUNDWATER TRAVEL, NEARBY ATOMIC WEAPONS TESTING, AND THE POSSIBILITIES FOR THE DEGRADATION OF WATER RESOURCES FOR HUMAN CONSUMPTION OR CROP IRRIGATION. GOVERNOR RICHARD BRYAN'S APRIL 29TH TESTIMONY BEFORE THIS COMMITTEE EXPLAINED THESE CONCERNS IN DETAIL, SO THERE IS NO REASON FOR ME TO REPEAT THESE ISSUES TODAY. HOWEVER, WHAT IS IMPORTANT TO STRESS IS THAT LAS VEGAS BELIEVES THERE ARE STILL SERIOUS TECHNICAL QUESTIONS AT YUCCA MOUNTAIN WHICH NEED TO BE ANSWERED BEFORE ECONOMIC INCENTIVES ARE DISCUSSED.

SECONDLY, LAS VEGAS IS LOCATED APPROXIMATELY 100 MILES SOUTHEAST OF YUCCA MOUNTAIN, AND IS THE CENTRAL CITY IN THE METROPOLITAN AREA'S RAPIDLY GROWING POPULATION OF 550,000, AND THE ISSUE OF SAFETY IS THE FOREMOST NUCLEAR WASTE CONSIDERATION ON THE MINDS OF THESE CITIZENS. UNLIKE MANY CITIES IN THE EAST, ALL MAJOR INTERSTATES, U.S. HIGHWAYS, AND MAINLINE RAIL TRACKS WHICH WOULD BE USED TO SHIP NUCLEAR WASTE IN SOUTHERN NEVADA, INTERCEPT OR TRAVERSE LAS VEGAS. FURTHER, UNION PACIFIC'S RAIL YARD, WHICH IS USED TO STORE, SWITCH, AND ASSEMBLE TRAINS, IS LOCATED WITHIN 100 YARDS OF LAS VEGAS' CENTRAL BUSINESS DISTRICT.

THERE WAS SUBSTANTIAL TESTIMONY AT LAST WEEK'S HEARINGS CONCERNING THE CONSTRUCTION OF ONE OR SEVERAL MONITORED RETRIEVAL STORAGE FACILITIES. I FEEL THESE COMMENTS HAVE SUBSTANTIAL MERIT, AS THEY WOULD INCREASE SAFETY BOTH IN STORAGE AND IN SHIPPING.

DR. ALVIN WEINBERG OF THE INSTITUTE FOR ENERGY ANALYSIS SUGGESTED THAT A MONITORED RETRIEVAL STORAGE FACILITY COULD SAFELY STORE RADIOACTIVE WASTE FOR 50 YEARS. HE ADDED THAT THE LONGER YOU HOLD THE WASTE ABOVE GROUND, THE LESS DIFFICULT IT IS TO STORE. BEN RUSCHE STATED THAT STORAGE IN A MONITORED RETRIEVAL STORAGE FACILITY WOULD NATURALLY REDUCE HEAT AND RADIOACTIVITY OVER TIME, AND SHOULD BE THE FIRST STEP IN ANY COMPREHENSIVE NUCLEAR WASTE SYSTEM. HE ALSO ADDED THAT A MONITORED RETRIEVAL STORAGE FACILITY COULD BEGIN TO RECEIVE WASTE BY 1998, AND COULD START EXCEEDING THE RATE WASTE IS BEING GENERATED WITHIN EIGHT YEARS. FINALLY, THIS SYSTEM IS CURRENTLY IN USE, OPERATING SAFELY AND EFFECTIVELY IN FRANCE AND SWEDEN.

LAS VEGAS SUPPORTS EFFORTS TO CONSTRUCT A MONITORED RETRIEVAL STORAGE FACILITY WHICH CAN ACCOMMODATE NUCLEAR WASTE FOR UP TO 50 YEARS. IF THE WASTE WERE STORED RIGHT AT THE NUCLEAR POWER PLANTS WHERE IT IS GENERATED, SUBSTANTIAL SHIPPING COULD BE AVOIDED. IF ONE MONITORED RETRIEVAL STORAGE FACILITY WERE BUILT AND ALL THE WASTE CONSOLIDATED IN THE EAST WHERE THE VAST MAJORITY IS PRODUCED, THE PRIMARY TRANSPORTATION MODE WOULD SHIFT TO RAIL. WITH MORE CASKS ABLE TO BE SHIPPED BY TRAIN THAN BY TRUCK, THE NUMBER OF SHIPMENTS AND LIKELIHOOD FOR ACCIDENTS

WOULD BE REDUCED.

A MONITORED RETRIEVAL STORAGE SYSTEM WOULD ALSO PROVIDE THE COUNTRY WITH THE BREATHING SPACE IT CURRENTLY DOES NOT HAVE, DUE TO THE NUCLEAR WASTE POLICY ACT'S MANDATED DEADLINES FOR OPENING OF A GEOLOGICAL REPOSITORY. CURRENTLY, THE COUNTRY IS LOCKED INTO GEOLOGICAL DISPOSAL, WHERE OTHER OPTIONS MAY BE MORE SUITABLE. FOR EXAMPLE, IT WAS CONTINUALLY EMPHASIZED AT LAST WEEK'S HEARINGS THAT REPROCESSING IN THIS COUNTRY IS NOT ECONOMICAL. HOWEVER, WITH A MONITORED RETRIEVAL STORAGE FACILITY, IF REPROCESSING DOES BECOME FEASIBLE, THE RADIOACTIVE MATERIAL WILL BE READILY RETRIEVABLE.

WITH REGARD TO THE IMPORTANT ISSUE OF CREDIBILITY, I WOULD LIKE TO ECHO GOVERNOR BRYAN'S CONCERNS ABOUT THE LACK OF CREDIBILITY REMAINING IN THE NUCLEAR WASTE PROGRAM. A RECENT NEVADA POLL DISCLOSED THAT A VAST MAJORITY OF RESIDENTS WERE OPPOSED TO THE NUCLEAR WASTE REPOSITORY, YET, AT THE SAME TIME, THEY BELIEVE IT IS GOING TO BE LOCATED IN NEVADA. THIS ATTITUDE CRYSTALLIZED IN LAS VEGAS AFTER THE DECISION BY THE DEPARTMENT OF ENERGY TO CANCEL THE SEARCH FOR A SECOND REPOSITORY IN THE EAST. AS GOVERNOR BRYAN SAID, "THIS DECISION MERELY ILLUSTRATES THE TYPICAL DEPARTMENT OF ENERGY ATTITUDE AND ACTIONS THE AFFECTED STATES HAVE EXPERIENCED FROM THE PROGRAM'S INCEPTION."

THIS LACK OF CREDIBILITY IS DIRECTLY CONTRARY TO THE ORIGINAL INTENT OF THE NUCLEAR WASTE POLICY ACT, WHICH WAS DESIGNED TO BE A REGIONALLY BALANCED, FAIR, AND TECHNICALLY SOUND SITING PROCESS. AND, WHILE NEVADA HAS BEEN ATTEMPTING TO FAITHFULLY CARRY OUT THE PROVISIONS OF THIS ACT, SENATE BILL 839 AGAIN PLACES POLITICAL EXPEDIENCY BEFORE TECHNICAL SUITABILITY. LAS VEGAS' POSITION HAS ALWAYS BEEN THAT YOU CANNOT BUY PUBLIC TRUST AND SAFETY AT ANY PRICE.

FINALLY, I WOULD LIKE TO ADDRESS SENATE BILL 839 DIRECTLY. THE CITY OF LAS VEGAS HAS TWO PRIMARY PROBLEMS WITH THIS BILL. FIRST, THE CITY FEELS THE SITING OF THE NATION'S FIRST NUCLEAR WASTE REPOSITORY IS FUNDAMENTALLY A TECHNICAL AND SCIENTIFIC PROBLEM. WE FEEL THAT THIS BILL CHANGES THE ENTIRE FOCUS OF THE SEARCH FROM AN OBJECTIVE, ANALYTICAL, SCIENTIFIC APPROACH TO ONE WHICH REVOLVES AROUND POLITICAL EXPEDIENCY AND GREED. WE FEEL IT IS IRRESPONSIBLE TO MAKE A TECHNICAL DECISION BASED ON COMPENSATION. WHILE WE BELIEVE THAT WHATEVER STATE IS SELECTED WARRANTS THE COMPENSATION BEING DISCUSSED, WE ALSO BELIEVE IT IS PREMATURE TO DISCUSS ECONOMIC INCENTIVES UNTIL THE SAFEST, MOST SUITABLE SITE HAS BEEN IDENTIFIED.

SECONDLY, THE CITY IS CONCERNED ABOUT THE PROVISION IN SENATE BILL 839 WHICH, TO SAVE MONEY, WOULD LIMIT SITE

CHARACTERIZATION TO ONLY ONE LOCATION. FRANK PARKER OF THE NATIONAL ACADEMY OF SCIENCES STATED THAT HE THOUGHT THE SELECTION PROCESS SHOULD CONTINUE TO CONCENTRATE ON THREE SITES. ECHOING THIS VIEW, BEN RUSCHE SUGGESTED THAT CHARACTERIZING ONLY ONE SITE WOULD BE A GAMBLE. HE STATED THAT MONEY WOULD BE SAVED IN THE SHORT RUN BY HALTING SITE CHARACTERIZATION OF TWO OF THE THREE SITES; HOWEVER, IF THE SITE BEING CHARACTERIZED PROVED TO BE UNLICENSEABLE BY THE NUCLEAR REGULATORY COMMISSION, IT WOULD ULTIMATELY COST MORE MONEY AND CREATE LONG DELAYS. AT THAT POINT, THE DEPARTMENT OF ENERGY WOULD BASICALLY BE STARTING OVER. IT IS LAS VEGAS' POSITION THAT DECIDING TO CHARACTERIZE ONLY ONE SITE IS UNWISE, AND THAT THE BEST APPROACH IS TO SIMPLY FOLLOW THE PROCESS CONGRESS PROVIDED IN THE ORIGINAL ACT.

FINALLY, IF THE AMOUNT OF MONEY PROPOSED IN THIS BILL IS ACTUALLY AVAILABLE, LAS VEGAS FEELS IT SHOULD BE DIRECTED TO ALTERNATIVE METHODS AND OPTIONS FOR HANDLING NUCLEAR WASTE. FOR EXAMPLE, IN A RECENT STUDY OF THE METHODS WHICH MAJOR COUNTRIES ARE USING TO HANDLE THEIR NUCLEAR WASTE, ONLY THE UNITED STATES AND CANADA DO NOT REPROCESS IT. IF FUNDS WERE SPENT ON REPROCESSING ON A VOLUME BASIS, THERE WOULD BE LESS RADIOACTIVE WASTE. IF REPROCESSING WERE COMBINED WITH VITRIFICATION, THE WASTE WOULD THEN BE INERT WITH RESPECT TO THE NATURAL

ENVIRONMENT, MORE SUITABLE FOR STORAGE, AND HAVE LESS CHANCE OF COMING IN CONTACT WITH THE ENVIRONMENT. IT IS THE CITY'S UNDERSTANDING THAT THE REASON REPROCESSING HASN'T BEEN CONSIDERED IS SIMPLY LACK OF MONEY. THIS BILL SEEMS TO US TO REMOVE THIS OBSTACLE.

TO SUMMARIZE, THE CITY OF LAS VEGAS STRONGLY SUPPORTS THE COMPLETION OF TEXAS', WASHINGTON'S AND NEVADA'S TECHNICAL STUDIES, WHICH WERE MANDATED IN THE NUCLEAR WASTE POLICY ACT OF 1982. BEFORE ECONOMIC INCENTIVES ARE CONSIDERED, THE STUDIES WHICH FOCUS ON LOCATING THE SAFEST, MOST SUITABLE SITE FOR THE NATION'S FIRST REPOSITORY MUST BE COMPLETED.

SECOND, SELECTING YUCCA MOUNTAIN BY POLITICAL DEFAULT DISPENSES WITH ALL PUBLIC PARTICIPATION AND OBJECTIVITY WHICH WAS INITIALLY THE CORNERSTONE OF THE NUCLEAR WASTE POLICY ACT OF 1982. THE FACT THAT AN ECONOMIC INCENTIVE BILL HAS BEEN INTRODUCED TACITLY ACKNOWLEDGES THAT PUBLIC ACCEPTANCE OF ONE SITE THROUGH THE HIGH INTEGRITY INVOLVED IN THE SELECTION PROCESS HAS BECOME A CASUALTY OF THE DEPARTMENT OF ENERGY'S INEPT SITING PROCESS.

THIRD, WHETHER OR NOT YUCCA MOUNTAIN IS SELECTED, THE DEPARTMENT OF ENERGY MUST ASSURE THE CITY OF LAS VEGAS THAT ALL SHIPMENTS OF RADIOACTIVE MATERIAL, BEGINNING WITH THE WASTE ISOLATION PILOT PLANT SHIPMENTS TO MEXICO IN 1990, ARE ABSOLUTELY

SAFE.

FOURTH, WHILE ECONOMIC INCENTIVES ARE WARRANTED TO ANY STATE WHICH IS OBJECTIVELY SELECTED, A SUBSTANTIAL PORTION OF THE AVAILABLE REVENUES SHOULD FOCUS ON ALTERNATIVE METHODS OF HANDLING NUCLEAR WASTE WITH THE PARAMOUNT CONCERN OF SAFETY, NOT MONEY.

FINALLY, THE CITY OF LAS VEGAS BELIEVES THAT THIS HEARING WAS PROMPTED BECAUSE THE HANDLING OF THE NUCLEAR WASTE PROGRAM BY THE DEPARTMENT OF ENERGY IS IN TOTAL DISARRAY. UNFORTUNATELY, THERE IS NO QUICK FIX. IF THE EXPERIENCE OF THE '60'S TAUGHT US ANYTHING, IT SHOULD HAVE TAUGHT US THAT DIFFICULT AND SEEMINGLY INTRACTABLE PROBLEMS ARE NOT SOLVED, NOR DO THEY DISAPPEAR, SIMPLY BY THROWING LARGE SUMS OF MONEY AT THEM. ON THE CONTRARY, THE USUAL RESULT IS THE EXPENDITURE OF HUGE SUMS OVER SEVERAL YEARS, THE INBREEDING OF A NEW AND PERPETUAL PROGRAM, AND A SOLUTION NO CLOSER THAN WHEN THE PROGRAM BEGAN.

THE CITY OF LAS VEGAS HOPES THESE PAST MISTAKES ARE NOT REPEATED.

LB:cl
11B:SNT,1

Senator HECHT. They are very good. I am happy to get the city of Las Vegas' position, as I am Clark County's.

Do you have anything you want to add to it? Feel free to speak. You have traveled a long time. You were here last week and now you are back again.

Mr. BECHTEL. Thank you, Senator Hecht. My name is Dennis Bechtel. I am a planning coordinator for our Clark County Department of Comprehensive Planning.

I would just like to add several recommendations to the record if I could.

Senator HECHT. Please. That is what you are here for.

Mr. BECHTEL. OK, I will read these. Number one, Clark County believes that economic incentives are mandatory for the sites that are selected as repositories. If compensation is to be legislated, however, it should be tied to the process and analyses prescribed in the current Nuclear Waste Policy Act. Compensation should therefore be deliberated once technical studies are completed.

The second item: The amendments should not contribute to the circumvention of the original intent of the act. The sharing of the nuclear wastes between the two sites, East and West, should not be further compromised. As I understand the act, this is how it was developed, and I think there is an issue of equity about the fact that much of the waste is generated in the East, and I think the intent of the act was to ensure that at least part of the waste was stored in the East.

Number three, the proposed amendments provide that affected local governments—and I emphasize that—should share in compensatory payments. The Committee should not lose sight of the fact that, despite previous testimony—and I am referring to the testimony from the site county in Nevada—the effects of the proposed repository go beyond the location of the site county and affect the state in which the repository is located, as well as adjacent local governments, such as Clark County, and Lincoln County would be another one, and other parts of the state as well.

Transportation, as Commissioner Dondero indicated earlier, is one facet of the program that provides the potential for severe impact which would go beyond the actual location of the site county.

Item number four that we have is that section 402(b)(3) of the proposed amendments provides that a state must waive its rights to seek judicial review under the proposed amendments, and I think this has come up several times previously.

This provision alone would appear to make a state or Indian tribe hesitant to accept the incentives offered. Given the problems that have occurred in the current DOE program, it is certain that the trust or confidence is no longer present even for an entity amply compensated for the repository.

We believe that this section should be removed, and I believe we concur with Congressman Bilbray's comments on this.

Number five, the amount of compensation remains constant throughout the program. If compensation is to be considered, in order to ensure true compensation for a state or Indian tribe the amount should be in real dollars. We are talking about a time period over 50, 60, who knows number of years. A provision should be included to index the incentive fund to account for inflation, for example.

The last item, section 222 of the Nuclear Waste Policy Act recognizes that there are alternative technologies that may be employed to either store or neutralize the nuclear wastes. We should benefit from the experience of others in resolving this serious national problem, and I think your example of France should be noted.

Creating a committee of authorities, perhaps an international panel of qualified personnel, may ensure that the best storage or treatment alternative is selected under this program.

That is all I have to add to Commissioner Dondero's testimony.

Senator HECHT. These hearings are very important to get your facts on the record, because oftentimes at a later time, 6 months, 6 years, 60 years, you want to refer back to this.

I have just been notified by staff that the record will remain open for a week. So when you get back, if you have anything you want to put into the record right now, I would certainly advise you and urge you to do so, and we will enter it into the record as if read by you today, because I think it is quite important to get everything you want in right now.

It is a very, very important piece of legislation which Senator Johnston and Senator McClure have introduced. I do not know how it is going to be handled in this Committee. I do not know how it is going to be handled in the Senate. But it could have a lot of ramifications, and now is the time to get all of your city's remarks and the county's on record.

Ms. DONDERO. Well, they will put in our full written testimony?

Senator HECHT. That is already in the record.

Ms. DONDERO. All right.

Senator HECHT. But once you get home, I am giving you a second chance.

Ms. DONDERO. I would like to have a chance to comment on your new bill when we have that one available to us, and I would like to have—because I commend you and think that that is probably a good step forward on the new process that you included in this hearing that you gave to us this morning. I think that that would be important.

Senator HECHT. Well, again, I did not go to sleep one night and thought up a wonderful idea and presented it the next morning. What I gave you is a practical approach which is used and used very, very well by other countries.

And it is, number one, safety is involved, and that is what we are all concerned about. And the amount of safety by letting this nuclear waste cool for 50 years and for 5 years is a fantastic amount of difference.

So by going that step, I do feel we are going to have to look at the MRS. I think under the Nuclear Waste Policy Act we have got step one, step two, step three. We are putting step three before step two. I think you have to go to step two, then you have to go to step three.

And again, I think we have got to go to reprocessing, and then we can, when the public knows that we have taken out practically everything out of this that is radioactive, then I think they will have a lot more confidence in this disposal site, wherever it is.

I would be against putting nuclear wastes anywhere in America until it has been cooled down. I just think that would be a terrible, terrible mistake.

Chernobyl showed the world that radiation knows no boundaries, because what happened inside of Russia had ramifications all over the world. So I think we have got to stress that safety is number one, no matter which state it is in and no matter which country it is in.

I will not pursue any further questions for you. But again, as I say, when you get home and you have something, please start working on it and get it to us. If it is not a week, if it is ten days or two weeks, we will try to accommodate you.

Ms. DONDERO. Thank you very much, and I am sure that Nevada is very important in this whole process, because we seem to be at the top of the list. And I want to be sure that, if we are at the top of the list, what happens to us.

Senator HECHT. Well, now is the time to get all of your remarks into the record, as I say. You never know when you are going to refer back to it, so let us get it done right.

Thanks a lot for coming a long way.

[Whereupon, at 4:38 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Committee Questions

STATE OF WASHINGTON RESPONSES
to
APRIL 29, 1987 HEARING FOLLOW-UP QUESTIONS

Questions from Senator Johnston

1. **At the April 29th hearing, we heard from the NRC staff, the National Academy of Sciences, and other experts concerning the technical adequacy of the work done by the Department of Energy in preparation for site characterization. They told us that the Department had done adequate preparation, that none of the three candidate repository sites should be disqualified at this time, and that site characterization should not be delayed. Yet, as I read your testimony, you feel there are still serious technical reasons not to go forward.**

   Neither fiscal responsibility nor public acceptance of the waste disposal program will be served by rushing ahead to characterize the three nominated sites. USDOE's strategy of characterization is based on the assumption that suitability of any of the sites can be proved--if only enough money is spent to prove it. It will tend, therefore, to underrate or ignore, rather than anticipate, technical issues, just as it has in the past. Credibility, acceptance, and ultimate success of the program will become more elusive unless a broad consensus is reestablished concerning the rules of the siting game.

   With all due respect, the roles of the National Academy of Sciences Board on Radioactive Waste Management and of the Nuclear Regulatory Commission have excluded them from a thorough evaluation of the site selection process. That they know of no reasons why any of the three sites would be disqualified reflects their respective roles, not their analyses of available data about the sites.

   -- The "success-oriented" approach to site characterization is designed so that more resources are committed to shore up weak conclusions. Thus the billionth dollar will be spent before USDOE or its contractors admit defeat. A part of the restructuring needed during a moratorium is to move toward characterization based on the condemnation or fatal flaw principle. This seems especially prudent given the significant signs that Hanford, in particular, is highly likely to be disqualified on a number of grounds.

   -- The process by which three sites were selected, combined with the unilateral and, in our view, illegal abandonment of the search for a second repository site, destroyed USDOE's credibility with the public. Even if their technical analysis from that point on were miraculously perfect, it would be challenged or ignored. After all, USDOE's own technical analysis indicated Hanford was decidedly the worst of the five sites, both in terms of costs and public safety, and yet Hanford was selected. There is little basis for confidence in USDOE's proper use of technical analysis, even if it is technically valid. Only a visible, consensus-building review can begin to repair that damage.

   -- The Nuclear Regulatory Commission must ultimately decide whether to license a repository site. The Commission has assiduously avoided placing itself in a position of influencing site selection in advance, and has bent over backwards to leave the selection initiative to USDOE. (USEPA took a similar position in adopting radionuclide release standards for a repository--it avoided regulations and supporting analyses that would discriminate among sites then under consideration.) The NRC has not systematically reviewed the site selection process--it will await recommendation of a site and then see if it is licenceable.

-- Even so, NRC staff identified serious potential problems in the draft and final environmental assessments for all three sites. Their comments have consistently pointed to over-optimistic assumptions as a problem area. USNRC is just beginning its quality assurance reviews, which may indicate that much of the data gathered for each of the three sites under consideration is not reliable. If NRC knows of no reason why any of the sites should not be characterized, it is because NRC is officially--and rightfully--ignorant at this point.

-- The NAS Board on Radioactive Waste Management has never formally reviewed the technical information available on the three (or five) sites. The Board reviewed and approved of the method USDOE used to rank sites (the method that put Hanford dead last); and the Board reviewed sample applications of the method by USDOE. It did not examine all the data, nor did it examine USDOE's conclusions. The Board will begin to gather information about the technical issues at the three sites at a meeting in Seattle July 14, 1987. Again, the NAS board knows of no disqualifying factors because its role has been limited and it has not set out to see if there are any.

The position of the Governor and the Nuclear Waste Board is that the national waste problem must be solved. A year or two taken to restore technical and public credibility, and a demonstration to state officials and the public that a superior site, not merely an adequate site, has been chosen--these will certainly improve the chances of success and very likely reduce the time lost later on in litigation and political upheavals.

1a. Please tell us, are there other technical issues that you feel we are ignoring?

All sites currently under consideration have technical issues that should be resolved before site characterization goes forward. The Hanford situation is clouded by a record of defective data collections, a lack of quality assurance, a disregard of important data, biased interpretations of data, and over-optimistic site evaluations. USDOE chose Hanford for characterization in spite of the fact that Hanford ranked dead last in both pre-closure and post-closure comparisons of sites. In the year since Hanford was chosen, additional technical problems have surfaced.

The State of Washington believes the following technical issues must be confronted before a large commitment of funds is made to site characterization:

GROUNDWATER TRAVEL TIME: State of Washington and NRC consultants believe there is a significant likelihood that groundwater travel time would be less than that required by NRC regulations.

EXPLORATORY SHAFT (ES) DRILLING: Drilling exploratory shafts will disturb the groundwater system, which would lead to the loss of "perishable" hydrology data. ES drilling should not start until the pre-ES hydrology programs have been completed and NRC, states, and tribes have an opportunity to consult with USDOE concerning study results.

GEOLOGIC FEATURES: Scientists have identified a suspected fault pattern within the controlled area study zone (CASZ). USDOE plans should include provisions for drilling to determine the extent of the suspected fault pattern.

PRESENCE OF NATURAL RESOURCES: There is strong evidence to suggest the presence of natural resources in the vicinity of the proposed repository. Methane (natural gas), geothermal resources, and groundwater could attract future prospectors to the site. After the final EA was issued, USDOE determined that the repository proposed for Hanford would be a gassy mine.

RETRIEVABILITY: The Act requires that nuclear waste packages be retrievable after placement in a repository. Hanford's high rock stresses cause serious retrievability problems. At an early stage of the program, the plan was to place multiple canisters in long boreholes. In the EA, USDOE described an approach in which single canisters were placed in short boreholes. Now USDOE is considering a shallow trench approach. Each succeeding attempt to engineer around this natural condition has greatly increased cost while not providing confidence that canisters can be retrieved.

MINER SAFETY: Shaft and tunnel construction will relieve in situ stresses which could lead to spontaneous fractures within the rock and rockbursts from walls of shafts and tunnels. High temperatures plus a wet environment will place a great amount of physical stress on the miners. A loss of ventilation could allow methane concentrations to reach levels which would permit explosions and/or asphyxiation.

EARTHQUAKES: The many small earthquake "swarms" which occur in the immediate vicinity of the Hanford site indicate the release of rock stresses. The earthquake locations appear to coincide with the geologic features mentioned earlier. Such swarms give an indication of where fracturing is occurring in the basalts. These fractures are possible groundwater pathways.

RADIONUCLIDE AND CHEMICAL CONTAMINATION: Previous Hanford activities have resulted in heavy contamination of the site. Independent experts should evaluate how defense wastes such as iodine 129 have reached deep groundwaters on and off the reservation.

PROGRAM AND DATA MANAGEMENT: USDOE'S waste management program has been plagued by serious program and data management problems. The approach has been based on competition among several repository projects. This has led to inconsistent management and data quality at each site. USDOE is now planning to contract for an overall manager for site characterization at all sites. This is probably an improved approach, but the contractor will not be in place for two years. Clearly, substantial site characterization should not occur until a new management philosophy and a new contractor are in place.

1b. Do you have technical concerns that you feel NRC is ignoring?

As explained above, NRC has a very narrow role at this point. NRC staff are not necessarily ignoring the issues listed under (a) above, but they are not yet in a position to review them systematically. No license application is before them. The law does not authorize them to conduct an independent evaluation or comparison of alternative sites.

2. The April 28 witnesses stated that it is necessary to go ahead with site characterization in order to resolve the technical concerns related to each of the candidate repository sites.

2a. Do you disagree with this?

Yes. For the reasons stated in response to Question 1, we do not agree that site characterization should go forward.

2b. What issues do you feel can be resolved--and potentially lead to disqualification of your site--prior to characterization, or prior to sinking exploratory shafts?

A completed surface based hydrology program can give greater assurances concerning the likelihood that groundwater travel times will meet NRC and EPA regulations. Effective porosity data is especially important. Drilling in the vicinity of the suspected faults would provide information about the extent of the geologic features. Deep seismic profiles would also confirm the extent of the features. The relationship between earthquake swarms and the geologic features needs to be understood prior to starting a shaft. Radionuclide contamination of deep groundwaters has occurred after only 40 years. This unusually fast movement of wastes seems to indicate routes through faults or defective wells. All of these issues should be investigated early to determine if a "fatal Flaw"exists at Hanford.

3. You state in your testimony that the Nuclear Waste Policy Act is a good law. But you also state that the Department's implementation has been biased and flawed and you appear to suggest that we must go back to the very beginning.

3a. What would you have us do differently in implementing the law?

As Governor Gardner has testified on a number of occasions, implementation should be based on simple principles that were included in the NWPA: selection of sites based on the best scientific information available; independent review of data and technical analyses by scientific experts; full disclosure of information to affected states, tribes and the public; and adequate opportunity for critical public scrutiny and debate.

3b. Do we need to amend the law? How?

The law needs to be amended. The following approach is recommended.

(1) Bring all site specific activities to an immediate halt.

(2) Establish a forum and a deliberative process designed to bring together representatives of all interests with the common goal of developing a consensus recommendation to Congress in answer to the question "where do we go from here?".

(3) Implement the recommendations with appropriate amendments to the NWPA and restart the process.

3c. **Isn't it true that, when the 1982 Act was passed, it was assumed that ongoing work in screening potential repository sites under DOE's existing waste program would continue?**

We assumed that USDOE would continue looking for new sites while "screening out" less desirable sites from among both those previously studied and those added to the list after passage of the NWPA. Secretary Herrington's May 28th decisions to stop the search for granite sites and to characterize the least safe and most expensive site, based on USDOE's own analysis, reflect a different interpretation--one that surprised our state officials.

3d. **Given that work in tuff has been going on at Yucca Mountain since 1978, at Hanford in basalt since 1968, and in salt in Texas since 1980, isn't it appropriate that these sites might be selected for continued study under the program established by the Nuclear Waste Policy Act?**

It was appropriate to do preliminary studies until the less desirable sites were weeded out. USDOE's approach is to charge ahead with very marginal sites. Congress should question whether or not it is a prudent investment of ratepayer and taxpayer funds to spend billions of dollars characterizing three marginal sites. Studies continued under the program should have been oriented toward early disclosure of technical problems and fatal flaws.

3e. **Do you really feel that all site screening and investigation should have started anew after passage of the 1982 Act?**

No. However, it would have greatly aided the timely implementation of the Act if USDOE had taken three steps at that point:

-- Systematically identify a larger pool of sites, reflecting both geologic and geographic diversity;

-- Develop a screening methodology based on identification of fatal flaws; and

-- Carefully review the data and analysis developed for the existing sites to see if they met rigorous scientific and licensing standards.

4. **Suppose you could make a list of the things DOE must do differently within the framework of the Act. Assume that if DOE agreed to make the changes on the list, then you would cooperate in allowing site characterization to proceed.**

4a. **Could such a list be made? Or do you simply want to be dropped from consideration?**

There are two separate issues here. Governor Gardner has consistently said that he would cooperate with characterization _if_ the end is selection of the best site based on credible scientific evidence that stands up to public scrutiny. However, a list of procedural steps will not change the geology, hydrology, or the contamination of the Hanford site, which appear to make it a poor and very expensive candidate for characterization.

4b. **What would be on the list?**

The following would be on the list.

(1) Site screening and investigations must start anew.

(2) Independent experts must be included in the site evaluation and selection process.

(3) The goal should be to characterize and select excellent sites rather than merely adequate sites.

5. **It appears to me that your complaints about the waste program are largely related to the process carried out by the Department. Is that an accurate assessment?**

Yes.

6a. **You have stated that S.839 is not the right approach. Please tell us what are your major problems with the provisions of the bill?**

An objective determination that the site is the safest and best site under consideration must be the first priority. Compensation discussions may then be appropriate.

6b. **Are there changes that you could make in the bill so that it would be acceptable?**

Yes. The items listed in question 3 would go a long way.

7a. **Why hasn't the state of Washington responded to the Department of Energy's proposal to have an on-site state representative at Hanford?**

Washington began a search for an on-site representative February 4, 1987. Finding a technically qualified, independent person who will work at state salary levels has proven difficult. While recruiting goes on, we participate in weekly program manager and other on-site meetings.

7b. **Does the state plan to have an on-site representative?**

Yes.

7c. **Isn't this initiative an indication that the Department is making an effort to exchange information with the state?**

We appreciate that the Richland Operations office has made numerous efforts to be more forthcoming with technical information,including the offer to support an on-site representative. Exchange of information requiring headquarters review, however, remains problematical.

POST-HEARING QUESTIONS

STATE OF NEVADA

April 29, 1987

(From Senator Johnston)

QUESTIONS FOR NEVADA GOVERNOR BRYAN

Hearing on S. 839
April 29, 1987

1. At the April 28 hearing, we heard from the NRC staff, the National Academy of Sciences, and other experts concerning the technical adequacy of the work done by the Department of Energy in preparation for site characterization. They told us that the Department had done adequate preparation, that none of the three candidate repository sites should be disqualified at this time, and that site characterization should not be delayed. Yet, as I read your testimony, you feel there are still serious technical reasons not to go forward.

--Please tell us, are there other technical issues that you feel we are ignoring?

--Do you have technical concerns that you feel NRC is ignoring?

2. The April 28 witnesses stated that it is necessary to go ahead with site characterization in order to resolve the technical concerns related to each of the candidate repository sites.

--Do you disagree with this?

--What issues do you feel can be resolved--and potentially lead to disqualification of your site--prior to characterization, or prior to sinking exploratory shafts?

3. You state in your testimony that the Nuclear Waste Policy Act is a good law. But you also state that the Department's implementation has been biased and flawed and you appear to suggest that we must go back to the very beginning.

--What would you have us do differently in implementing the law?

--Do we need to amend the law? How?

--Isn't it true that, when the 1982 Act was passed, it was assumed that ongoing work in screening potential repository sites under DOE's existing waste program would continue?

--Given that work in tuff has been going on at Yucca Mountain since 1978, at Hanford in basalt since 1968, and in salt in Texas since 1980, isn't it appropriate that these sites might be selected for continued study under the program established by the Nuclear Waste Policy Act?

--Do you really feel that all site screening and investigation should have started anew after passage of the 1982 Act?

4. Suppose you could make a list of the things DOE must do differently within the framework of the Act. Assume that if DOE agreed to make the changes on the list, then you would cooperate in allowing site characterization to proceed.

--Could such a list be made? Or do you simply want to be dropped from consideration?

--What would be on the list?

5. It appears to me that your complaints about the waste program are largely related to the process carried out by the Department.

--Is that an accurate assessment?

6. On page 3 of your testimony, you offer your pledge that Nevada will cooperate and work in good faith in a constructive manner to correct the repository program's fundamental flaws, provided that Congress and the other parties involved do likewise.

--Does this mean that if the Nevada site is proved to be technically adequate for characterization and, eventually, for construction of a repository, you will cooperate in that process?

7. You have labelled S. 839 as "nuclear blackmail." Please tell us what are your major problems with the provisions of the bill?

--Are there changes that you could make in the bill so that it would be acceptable?

Follow-Up Questions from Senator McClure

April 29, 1987 Hearing on S.839

QUESTIONS - State Witnesses

1. a. To what extent do you now involve your local communities in activities and decisions related to the DOE siting activities?

b. Do you feel that the provisions of S.839 fairly allocate responsibilities and funding resouces between State and local interests?

2. a: Based on the testimony we received yesterday from the National Academy of Sciences, the NRC, and others, the Waste Program to date does not lack for technical credibility. Only through the detailed site characterization process will we be able to identify technical flaws in a site's suitability for disposal of wastes. Do you agree?

b. If you have serious concerns about the technical suitability of your site, why wouldn't you be willing to proceed with full site characterization along with NAS, NRC and state oversight, to better substantiate (or alleviate) your concerns?

3. a. Have DOE's interactions with the States and Indian Tribes improved since passage of the FY 87 Continuing Resolution (which was highly critical of DOE's actions to date)? Please elaborate.

b. Would the provisions of S.839 improve your ability to provide meaningful input and oversight with respect to DOE's site selection process? Why or why not?

4. Would you be more confident in the credibility of DOE's technical and scientific work if it were monitored and perhaps even verified by an independent scientific body such as the NAS?

5. There is obviously a marked discrepancy between your interpretation of the suitability of your site for accepting wastes, and the interpretation of DOE. Furthermore, your evidence emphasizes the negatives in the preliminary data, and in the NRC's and NAS's comments with respect to siting guidelines, the environmental assessments, the selection methodology, etc. DOE, on the other hand, tends to stress the positives of the program's performance and in feedback from other agencies.

Aside from the "political" biases you claim were inherent in DOE's siting selection process, all other concerns that you list can only be verified through a more detailed scientific data base. Even NRC and NAS concurred on these points in their testimony yesterday.

Why are you not willing to take the next step to prove scientifically the basis for your arguments that your site is unsuitable?

6. In comparing the State and local testimony, I find that the local community sentiment, while definitely not positive, was nevertheless less negative to S.839, and less negative to the process of site characterization than was the State. Can you explain the difference? Does it derive from political pressures, a difference in data base or involvement, or what?

QUESTIONS FROM SENATOR JOHNSTON

1. We believe that there are serious technical questions regarding the Nevada site (as well as the Washington and Texas sites) as explained and documented in detail in my April 29 testimony. I would also note that the NRC staff has criticized DOE's "overly optimistic" interpretations of certain data and suggested that it is still very questionable whether any of these sites can be licensed. It should also be remembered that the quality of the data used by DOE has not been verified through quality assurance procedures, nor did the NAS or NRC conduct any independent analysis to determine if DOE used good data. However, I must again reemphasize that the issue here goes far beyond merely focusing on technical questions. Nevada and other affected states have objected because of DOE's repeated violations of the intent and express provisions of the 1982 Act. These legal objections concerning DOE's failure to follow the Act's process are not simply "political" objections. They are quite substantive concerns. Moveover, the attitude evidenced by DOE in disregarding the Act's legal requirements and charging ahead according to its own predispositions has also undermined DOE's technical credibility. In addition, DOE's poor track record in operating numerous facilities also should make anyone reluctant to trust their technical assertions.

2. Nevada is strongly opposed to proceeding with site characterization at any of the three candidate sites. Nevada, Texas and Washington were selected by a biased, politicized and illegal process. Therefore, site characterization should notbe conducted at any of our sites under the current fatally flawed DOE program.

While my preceding answer indicates that we do not believe that it is appropriate to proceed with characterization, your question concerning whether there are issues we feel could be resolved prior to characterization or sinking exploratory shafts raises an issue on which I would like to comment. One of the serious flaws in the site selection process has been DOE's failure to seek out information that might potentially disqualify the sites and instead obtain only limited data that would allow DOE to conclude that favored sites are qualified. DOE should have structured the program so that initially, sites would be much more carefully screened by conducting appropriate surface testing activities. We would suggest that when this program is eventually restarted, as we believe it must be, that your Committee should specifically require that DOE engage in far more data-gathering and analyses during the site selection stage prior to any characterization activities.

3. We are simply asking that DOE, or perhaps more appropriately, another federal agency charged with implementing the law, merely follow the provisions of the 1982 Act as written. As I pointed out in my testimony, over the past five years, DOE has followed its own predisposition, rather than the Act's requirements, so that the program has gotten totally off the track intended by the 1982 Act.

With regard to amendments, my April 29 testimony outlines a number of amendments that should be considered to "fine tune" the 1982 Act. I would refer you to that statement, but I would also emphasize that these fine-tuning amendments should not change the basic framework of the Act, which we believe is sound and essential.

With regard to ongoing work in screening repository sites under DOE's existing program when the Act was passed in 1982, we do not believe that "it was assumed" that the Yucca Mountain site, for example, would automatically be considered for characterization, and possibly site construction. Rather, it was assumed that there were many potentially acceptable sites, including Yucca Mountain, and that there would be a careful unbiased national screening process to pick the very best available of the possible sites. If the Nevada, Washington and Texas sites were to remain the automatic primary targets of DOE's activities, then what would have been the point of passing the Act? Thus, there was clearly no basis for DOE to target sites in our three states alone. Instead, it should have sought out the best available sites anywhere. The key to assuring the ultimate acceptability of the sites finally chosen was to conduct a thorough, unbiased national screening and to locate the facilities in the best and safest of those sites.

4. As noted earlier, we would never agree to allow site characterization to proceed under the current flawed process because DOE selected Nevada in clear violation of the Act.

5. Our complaint is two-fold, as explained in my April 29 testimony: (1) scientific and technical concerns -- Nevada has many legitimate and substantial scientific and technical questions concerning the licenseability and safety of the Nevada site; (2) legal/process concerns -- we also have raised many objections to DOE's failure to follow the Act's provisions and concepts concerning the siting process. As you know, when the 1982 Act was passed, scientists indicated that there were many potentially acceptable sites in many states and regions. However, understandably, no state or region wanted to host such

a waste dump. Therefore, the Act established a process with many specific legal requirements, that was designed to lead ultimately to the selection of repository sites based on credible and fair procedures. Regrettably, DOE ignored or misinterpreted many key requirements for this process in its current program.

6. My testimony made clear that Nevada will cooperate and work in good faith to help correct the repository program's fundamental flaws. It also clearly indicates that those flaws cannot be corrected without rolling back many of DOE's major program decisions, including its current candidate site selection, thus giving the program a "fresh start." This means that the Nevada site would be fairly screened as a part of a national screening process. If this occurs, we are convinced that Nevada would never be selected as a candidate site.

7. With regard to S. 839, this legislation has now, of course, been superseded by S. 1668. The attached letter sets forth our basic concerns with the latter bill. While we believe that states should be given greater incentives to host a repository, Nevada also feels that it is totally unacceptable to proceed with site characterization at the three existing candidate sites. As noted earlier, Nevada, Texas and Washington were

selected pursuant to an improper and therefore invalid process. For the Congress to disregard DOE's past biased action and to permit DOE to ignore the Act's legal requirements would be grossly unfair and akin to allowing a terrorist to choose which of three hostages to kill. Accordingly, the unworkable "quick fix" approach of S. 1668 should be dropped and the Congress should substitute an independent commission evaluation such as that contained in the Sasser amendments.

McClure Questions

1. We have had regular discussions, interchanges and dialogues with Nevada citizens and local community officials regarding DOE's siting activities. If any legislation is enacted that provides economic incentives or payments, it would probably be most appropriate to provide simply that such funds would be paid to the state. The state legislature is in the best position to determine how those funds should be spent, and the extent to which local interests should receive any special compensation.

2. As I have explained in my April 29 written testimony, we in Nevada believe the program does lack technical credibility and that there are many serious scientific and technical concerns

regarding licenseability and safety of these sites. Moreover, I would note that even the NRC staff suggested many shortcomings concerning DOE's technical program including its overly optimistic (i.e., unjustified) interpretations of data. In addition, I am sure that you are aware that stop work orders have been issued at Yucca Mountain because adequate quality assurance controls had not been instituted by DOE.

I also want to remind the Committee that scientists frequently have differing opinions and that our technical and scientific experts and those of the other states do not necessarily agree with the procedures followed and interpretations given by DOE and its contractors, who have a vested interest in assuring their sites are selected for characterization and ultimately for construction. Likewise, we also do not automatically agree with scientists involved with the National Academy of Sciences. Such scientists are not necessarily immune from bias especially when DOE so heavily subsidizes their work.

Proceeding with characterization to further substantiate or alleviate our technical concerns of site characterization cannot answer many of our concerns. As I have pointed out, we believe that it is clear that the Nevada, Texas and Washington sites were selected by an invalid process and that it would therefore be grossly unfair and unjustifiable to characterize these sites. We do not believe that a repository program will ever work unless there is an adequate level of public acceptance. Given the well documented bias of the program and DOE's questionable decisions and actions, public confidence could never be adequately restored simply by proceeding with site characterization. These fundamental flaws in the process must be addressed first.

3. The 1987 continuing resolution on DOE funding may have had some restraining effect on DOE's actions. However, I must again emphasize the basic fact that it is improper to "let bygones be bygones" and accept DOE's past biases and inappropriate actions. This Committee's pending legislation fails to recognize this fundamental fact. The bill should be totally rewritten along the lines of the Sasser Amendment, which establishes an independent commisison to review the program's problems and to recommend amendments to "fine tune" the Act.

As noted earlier, it is essential that many basic program decisions and actions (the Siting Guidelines, the EA's, the candidate site selection, etc.) must be rolled back and that a "fresh start" should be made in implementing the Act. If this is done, we believe that it would be quite helpful to have one or more appropriate independent parties to monitor DOE's work. At the same time, the oversight role of the states should be clarified and expanded.

The jurisdiction of any such review body should not be limited simply to scientific and technical questions, however, since many legal and process issues are also involved. Finally, because both scientific and procedural matters would be involved, we do not believe that the NAS is the appropriate body to perform such a review. Also, based on the NAS' past performance for the waste program and economic connections with DOE, we are not convinced of NAS' "independence."

5. As explained earlier, we not only have serious scientific and technical concerns, but also a wide range of legal and process concerns. Our latter objections are not "political," as your question suggests. These are legitimate substantive objections based on DOE's violations of the law. In addition, I would again note that we are unwilling for the Nevada site to be characterized because there is no valid justification for selecting the Nevada site. Our site was chosen under a biased and politically driven process in violation of the 1982 Act's

provisions. Under those circumstances, it is clear that there is no basis for targeting us for characterization.

6. To the extent that there may be some perceived differences between state and local testimony, I would assume there could be various reasons for such differences. In our case, Nevada's state officials have certainly had far more direct experience and involvement in dealing with DOE. State officials also have a responsibility to consider the state's broader constituency and must consider the overall long term welfare of all the state's citizens more so than elected officials from particular local communities.

THE STATE OF NEVADA
EXECUTIVE CHAMBER
Carson City, Nevada 89710

RICHARD H. BRYAN
Governor

TELEPHONE
(702) 885-5670

September 10, 1987

Dear Senator

Nevada, Washington, Texas and other parties, as well as Congressional investigations, have clearly documented the Department of Energy's (DOE) biased, politicized and often illegal implementation of the high-level nuclear waste repository program. First-round states advised Congress months ago that DOE's current program is so tainted and totally lacking in credibility that many major program decisions must be rolled back and re-implemented in a fair and legal manner as required by the Nuclear Waste Policy Act of 1982 (Act). Nevada and other parties have made many helpful suggestions and offered to work constructively with Congress to get this important program back on its intended track.

The Senate Energy Committee now has come forward with a most disappointing and unacceptable response as a part of its budget reconciliation proposal and as a separate bill S. 1481. The Committee's legislation greatly exacerbates our problems and concerns. Instead of taking a "stick" to DOE, the Committee proposes to ratify DOE's fundamental violations of the Act, while offering additional monetary "carrots" to the most affected states. The Committee would pay the state selected to host a repository site $100 million per year, and would make other fundamental changes in the Act apparently designed to buy political support by "letting other states off the hook." In particular, the proposal would require the DOE Secretary to pick one of the three first-round states nominated for site characterization under the flawed program and proceed to characterize that single site, thereby disregarding DOE's past biased actions and failures to follow the Act's legal requirements. This approach is akin to allowing a terrorist to choose which of three hostages to kill!

The Energy Committee's legislation is grossly unfair, and Nevada intends to take every step possible to prevent its enactment. This proposal, which destroys the important concept of comparing several qualified sites and the regional balance compromise agreed to in 1982, would substantially increase the odds that Nevada would be selected to host the repository even though we do not have the best available site, or necessarily even a safe site.

Nevada is not asking for special treatment, but we expect and demand basic fairness on this critically important issue. Congress must remember that siting a nuclear waste repository has never been simply a scientific question that can be answered by characterizing a particular site to determine if it is safe and licensable. Because scientists say there are many potentially acceptable sites in many different states and regions, but no one has wanted to host such a site, the necessity of having an extremely fair and unbiased selection process to choose among the many sites has long been recognized. Thus, the 1982 Act's requirements were designed to create a highly credible and fair selection process, with meaningful state participation and oversight, under which no state ultimately selected to host a repository could have a truly legitimate basis to object.

We were willing to live with the results of the siting process provided the 1982 Act's rules were followed correctly. However, as noted earlier, DOE clearly has failed to establish an unbiased process as required by the Act. In fact, it has essentially done just the opposite and has given Nevada and other affected states many very legitimate objections! This critical flaw makes it impossible for Nevada, or any other first-round state, to tolerate the Energy Committee's misguided proposal that would railroad us into hosting a nuclear dump by legitimizing DOE's defective and illegal siting process.

Public confidence has been destroyed in the current program, and it cannot be bought by the $100 million-per-year "carrot" being proposed by the Committee. A program that is so blatantly biased and flawed with regard to site selection also can never be trusted to answer properly the many legitimate and substantial scientific and technical questions that we have raised regarding the suitability of our site.

Although Nevada will "go to the mat" against the Energy Committee's proposal, we remain committed to helping Congress and other interested parties resolve this difficult national problem. Fairness, equity and due process, all of which have been ridden roughshod by the DOE program, and which are totally trampled by the Committee's approach, are central to any solution.

Given the complexity and great political sensitivity of this issue, we urge that you reject the DOE and Energy Committee approaches and adopt legislation based on the proposals offered earlier by Senator Sasser and Congressman Udall. Both proposals would create an impartial, independent study commission (like the Tower and Rogers Commissions) to investigate and evaluate objectively the nuclear waste program's problems and to recommend solutions promptly to Congress.

These Sasser/Udall proposals, which are endorsed by affected states, Indian tribes, environmental organizations and others, represent a constructive, reasonable and fair way of dealing with this issue. Creating an independent commission to investigate this problem can "clear the air" without causing undue delay in developing a repository. The commission could largely settle this issue either by rejecting the states' positions, or by confirming their objections and proposing workable solutions.

I appreciate your consideration and understanding of Nevada's deeply held views on this repository question. As I noted earlier, we are not demanding special treatment, only basic fairness. I am sure that you would ask and expect the same for your state.

Please contact me personally if you have any questions, or would like further information.

Sincerely,

Richard H. Bryan
Governor

RHB:RRL/njc

YAKIMA INDIAN NATION RESPONSES TO SENATE ENERGY COMMITTEE FOLLOWUP QUESTIONS ON S. 839

QUESTION

1. It appears from your testimony that one of your major concerns about S. 839 is that, as drafted, it could remove the oversight role of the affected Indian tribes.

--Please tell us how the legislation should be changed to ensure that an effective oversight role is preserved.

--Please tell us what other changes could be made in the legislation to make it acceptable?

RESPONSE

Effective oversight must include the ability and the right to voice concern when an affected tribe or state disagrees with DOE's plans or activities. Under S. 839, doing so would probably be a default under the incentive agreement, and the tribe or state would be required to pay back all incentives with interest. Even if characterization showed the site to be unsuitable in the opinion of the tribe or state, it would be unable to register its complaint without incurring enormous liability. The right to judicial review would be waived. Incentives should be offered to the states or tribes that end up hosting waste facilities without requiring them to sign away all their rights.

Unfortunately, minor modifications could not make S. 839 acceptable to us. We cannot accept the major premise of the bill: replacing detailed geologic considerations as the basis for site selection with economic self-selection. This premise runs counter to the underlying premise of the Nuclear Waste Policy Act: safe disposal of radioactive waste for generations to come. If a site is essentially selected by those whose primary interest is economic, safe, long-term storage is not assured. Long after the funds provided to a "volunteer" state or tribe are gone, future generations may realize first-hand the grave consequences of compromising geologic considerations.

QUESTION

2. At the April 28 hearing, witnesses from the NRC staff, the National Academy of Sciences, and other experts testified concerning the technical adequacy of the work done by the Department of Energy in preparation for site characterization. They told us that the Department had done adequate preparation, that none of the three candidate repository sites should be disqualified at this time, and that site characterization should not be delayed. Yet, as I read your testimony, you feel there are still serious technical reasons not to go forward.

--Please tell us, are there other technical issues that you feel we are ignoring?

--Do you have technical concerns that you feel NRC is ignoring?

RESPONSE

Most of the important technical issues appear to have been identified by NRC staff. The differing conclusions about the suitability of the sites stem primarily from different degrees of conservatism in projecting the performance of the sites. The experts who testified at the April 28 hearing are very optimistic. In light of the enormous uncertainty inherent in these performance projections over 10,000 years, we feel they should be done very conservatively. It is significant that Mr. Thompson, from the NRC staff, could only say that one of the sites would probably prove to be suitable, and that any of them could be eliminated if significant issues are not resolved. That is not exactly a ringing endorsement of DOE's sites.

In deciding between an optimistic and conservative approach to implementation of this program, the implications for public acceptance and confidence are key considerations. It is quite clear that the public, as a whole, is not optimistic about this enterprise. If the federal government is serious about public acceptance of this program, it must implement the program as conservatively as possible, and actually work to find sites that are among the best that can be found.

The sites picked by DOE--in two out of three cases before the NWPA was even passed--would not be on any objective person's list of the best sites. The public looks at DOE's bald political manipulation of the process, which resulted in the selection of the worst site, and properly concludes that the waste program is being implemented incautiously. Not surprisingly, that destroys their confidence in the program, and the possibility of their cooperation with it. Tribal and state governments are simply reflecting the skepticism and disillusionment of their citizens. As long as the program is implemented with maximum optimism and minimum conservatism, they will continue to do so.

QUESTION

3. Witnesses stated at the April 28 hearing that it is necessary to go ahead with site characterization in order to resolve the technical concerns related to each of the candidate repository sites.

--Do you disagree with this?

--What issues do you feel can be resolved--and potentially lead to disqualification of your site--prior to characterization, or prior to sinking exploratory shafts?

RESPONSE

We do not disagree with the proposition that more study would be necessary to better respond to technical concerns about the sites. Characterization would provide more information about any site, a fact which is no help in deciding which sites to characterize. The real issue here is whether these sites are among the best that can be found; and whether they demonstrate sufficient likelihood of proving suitable that it is prudent to make the billion dollar plus investment in characterization. It is not a good sign that the NRC can only state its confidence that **one** of the sites will prove suitable. The present indications are that there is a good chance that at least one and possibly all of the recommended sites will prove to be unsuitable. As the NRC witness stated on April 28, there are significant issues at all of the sites which, if not resolved, could prevent licensing of the sites.

The NRC Staff, in its recent first quarterly report to the Commissioners on the waste program, identified numerous issues that could be resolved at all of the sites through surface-based testing prior to the beginning of exploratory shaft construction.

QUESTION

4. You state in your testimony that the Nuclear Waste Policy Act is a good law. But you also state that the Department's implementation has been biased and flawed and you appear to suggest that we must go back to the very beginning.

--What would you have us do differently in implementing the law?

RESPONSE

We would have DOE obey the law as it is written. DOE would continue to work toward the development of two closely consecutive repositories. DOE would not treat rock diversity as an overwhelming consideration that overrides the comparative technical merit of the sites. The sites which rank highest in the comparative evaluation would be those selected for characterization, with rock diversity used only to break ties. Finally, the preliminary determination of suitability required by section 114(f) would be made after conclusion of characterization, when it has some substantive meaning.

QUESTION

--Do we need to amend the law? How?

RESPONSE

Something needs to be done to propel the repository search out of the mire. The Nuclear Waste Policy Act, if implemented properly, probably would have yielded a geologically suitable site. Unfortunately, DOE's failure to implement the law credibly leaves no choice but to make a substantial mid-course correction. A useful amendment to the NWPA would be to repeal the provision requiring DOE to identify potentially acceptable sites before promulgating its siting guidelines. The decision to permit DOE to start the first round program in the middle of the site selection process, with sites it had selected on geologically irrelevant grounds prior to NWPA passage, was the single most serious flaw incorporated into the NWPA. That decision led directly to the development of useless siting guidelines, designed to ratify DOE's previously selected sites, rather than to find sites that are among the best that can be found.

In terms of comprehensive amendments, the independent commission approach currently being contemplated in proposed legislation in both the House and the Senate provides a useful mechanism for assessing how best to proceed.

QUESTION

--Isn't it true that, when the 1982 Act was passed, it was assumed that ongoing work in screening potential repository sites under DOE's existing waste program would continue?

RESPONSE

Yes, that appears to be true. As discussed in the previous answer, such ongoing work is the single biggest problem undermining the NWPA's search for a suitable geologic repository. Everybody knows that two out of three favored sites were selected because of federal "ownership", rather than geologic excellence. Everybody knows that two out of DOE's three favored sites were selected not because of their geologic excellence, but rather because of their convenience to DOE. That fact more than anything else has destroyed public confidence in DOE's implementation of the program by indicating DOE's preference for the path of least political resistance over the path of technical excellence.

QUESTION

--Given that work in tuff has been going on at Yucca Mountain since 1978, at Hanford in basalt since 1968, and in salt in Texas since 1980, isn't it appropriate that these sites might be selected for continued study under the program established by the Nuclear Waste Policy Act?

RESPONSE

It is not appropriate to continue with study of DOE's sites unless those sites could have been selected by a valid national screening using selective siting guidelines designed to find sites that are among the best that could be found. Such a program might have identified excellent sites in basalt, but they would almost certainly not be right next to the Columbia River in an extremely complex hydrogeologic regime. It might have identified excellent sites in unsaturated rocks, but they would probably not be completely surrounded by earthquake faults, or close to the site of nuclear weapons testing. Such a program might have identified excellent sites in salt, but they would probably not be under enormously valuable and unique aquifers, or below towns, or adjacent to national parks. The question suggests that DOE would not have investigated these sites for so many years if they were not promising. We suggest that DOE was overwhelmingly motivated by sociopolitical considerations, and has not been sufficiently conservative in its technical work, and in fact had not identified very good sites.

QUESTION

--Do you really feel that all site screening and investigation should have started anew after passage of the 1982 Act?

RESPONSE

At the minimum, site screening and investigation should have been halted until useful, selective siting guidelines were promulgated. Congress specified nearly a full page of statutory text prescribing the considerations that should be included in the siting guidelines. DOE took nearly two years to actually issue the guidelines. Yet they were never used in the first repository site selection process. Congress was very wise in requiring detailed siting guidelines based primarily on geologic considerations. Congress was hasty, however, in permitting the first repository program to begin outside the guidelines. Starting anew would have required some additional time at the beginning, but it would have so enhanced the credibility of the program that we would probably be ahead of the game today if that course had been followed.

QUESTION

5. Suppose you could make a list of the things DOE must do differently within the framework of the Act. Assume that if DOE agreed to make the changes on the list, then you would cooperate in allowing site characterization to proceed.

--Could such a list be made? Or do you simply want to be dropped from consideration?

RESPONSE

If DOE would follow the Act, we would unquestionably cooperate in allowing site characterization to proceed, since it would not choose to characterize the Hanford site if sites were selected on the basis of detailed geologic considerations, as required by the NWPA. There is no way the Hanford site would be selected by a technically credible program.

If DOE had followed the Act and implemented a technically credible program, it might conceivably have identified other sites within the Columbia Plateau Basalt Group, and also within the Ceded Lands of the Yakima Indian Nation, but not directly adjacent to a major river or in such a complex hydrogeologic regime as the Pasco Basin. In such a case--that is, where there were no apparent serious problems with the site--we would be likely to cooperate in allowing site characterization to proceed.

QUESTION

6. It appears to me that your complaints about the waste program are largely related to the process carried out by the Department.

--Is that an accurate assessment?

RESPONSE

In large measure that is an accurate assessment. However, as discussed above, we also take serious issue with the Congressional decision to allow DOE to proceed with the sites it had selected prior to NWPA passage.

Follow-up Questions from Senato

r McClure

April 29, 1987 Hearing on S. 839

QUESTIONS - Indian Tribes

1. a. Have DOE's interactions with the States and Indian Tribes improved since passage of FY 87 Continuing Resolution (which was highly critical of DOE's actions to date)? Please elaborate.

RESPONSE

There is some evidence of marginal improvement in DOE's efforts, but significant changes in DOE's basic attitude toward state and tribal concerns is not apparent. For example, the Department largely ignored the comments of the states and Indian tribes on its draft Mission Plan Amendment. Also, after asking Congress to endorse its request for five additional years to get the first repository on line, on the grounds that more time was needed for consultation and cooperation with states and tribes, the Department refused to grant the states' and tribes' requests for more than 90 days to review its 10,000-page-plus Site Characterization Plans. Finally, DOE is repeatedly stating that consensus was recently reached among the parties on the sufficiency of its plans for pre-ES hydrology tests at Hanford. In fact, the states and affected tribes have numerous outstanding concerns about the number and locations of DOE's planned tests.

QUESTION

b. Would the provisions of S.839 improve your ability to provide meaningful input and oversight with respect to DOE's site selection process? Why or why not?

RESPONSE

S. 839 would destroy our ability to provide meaningful input and oversight with respect to DOE's site selection process. Our concern is with the technical adequacy of DOE's process, and S. 839 would effectively make that consideration irrelevant. Moreover, if the YIN entered into an incentive agreement under the bill (which would never happen), it would require us to refrain from protesting any action of the Department in any forum, for fear of being in default under the agreement. How can meaningful oversight be possible where the registering of valid concerns by the parties most likely affected is proscribed?

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STION

2. Would you be more confident in the credibility of DOE's technical and scientific work if it were monitored and perhaps even verified by an independent scientific body such as the NAS?

RESPONSE

The NWPA provides that the technical and scientific work of DOE should be monitored and verified by the NRC, and by the affected states and Indian tribes. We feel that is the appropriate mechanism for obtaining public confidence in the program. DOE's abuse of the NAS role in reviewing a portion of its Multi-Attribute Utility Analysis is a perfect example of the danger of NAS involvement. In that case, DOE got the NAS to review a small but crucial part of its work, and that review was denied to the states and tribes. The results of the NAS review were subsequently mis-characterized by DOE, with the apparent blessing of the NAS Review Board. As a result, the statutory review role of the states and tribes was usurped, and the credibility of both DOE and NAS was seriously damaged.

QUESTION

3. There is obviously a marked discrepancy between your interpretation of the suitability of your site for accepting wastes, and the interpretation of DOE. Furthermore, your evidence emphasizes the negatives in the preliminary data, and in NRC's and NAS's comments with respect to siting guidelines, the environmental assessments, the selection methodology, etc. DOE, on the other hand, tends to stress the positives of the program's performance and in feedback from other agencies.

Aside from the "political" biases you claim were inherent in DOE's siting selection process, all other concerns that you list can only be verified through a more detailed scientific data base. Even NRC and NAS concurred on these points in their testimony yesterday.

Why are you not willing to take the next step to prove, scientifically the basis for your arguments that your site is unsuitable?

RESPONSE

It is not our burden to prove that the site is unsuitable. Rather, it is DOE's burden to prove that a given site is suitable. At this point, neither proposition can be proved. The question now is whether DOE's chosen sites are sufficiently free of apparent adverse conditions to merit spending billions of dollars and five to six years on their characterization. We are convinced that the answer is negative for at least one, and possibly all, of the recommended sites.

Practically speaking, it is incorrect to characterize the Yakima Indian Nation as unwilling to take the next step. Our program is, in fact, preparing for review of an SCP and characterization of the Hanford site. We believe that characterization of Hanford would be a serious mistake. The single greatest symbol of the failure of this program is the fact that DOE insists on characterizing the worst site. Nevertheless, we are prepared to consult and cooperate in representation of Hanford, as required by the NWPA, in the event that neither Congress nor the courts prevent it from happening.

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION RESPONSE TO FOLLOWUP QUESTIONS FOR INDIAN TRIBES

Hearing on S. 839
April 29, 1987

1. It appears from your testimony that one of your major concerns about S. 839 is that, as drafted, it could remove the oversight role of the affected Indian tribes.

--Please tell us how the legislation should be changed to ensure that an effective oversight role is preserved.

--Please tell us what other changes could be made in the legislation to make it acceptable?

ANSWER: The CTUIR believes the goals and objectives of the NWPA are sound. The repository program has ground to a halt because of DOE's failure to implement the program as Congress intended. Certainly the oversight activities of affected parties does not explain the program's present stalemate.

The CTUIR does not support proposed legislation that significantly alters the structure of the NWPA. S. 839 could significantly change the NWPA process by changing the mechanism by which sites are selected for characterization and by diluting the oversignt authority of affected parties. In particular, S. 839 presents serious potential threats to the role and interests of affected Indian tribes surrounding Hanford. S. 839 fails to recognize the potential impacts of a repository on a tribe's off-reservation treaty rights that compelled Congress to broaden the definition of affected Indian tribes to include "non-host" tribes. In their 1855 Treaty with the United States, the Umatilla Tribe reserved the right to fish, hunt, graze cattle and gather traditional foods and medicines off their reservation.

The Secretary of Interior has certified that a Hanford repository has the potential to adversely impact those treaty rights which gave rise to our status as an affected tribe. Despite this finding, if S. 839 were enacted, the State of Washington could offer the Hanford site for a repository or MRS and the Tribe would have no authority to participate in the characterization or construction of the facility, would not be entitled to any portion of the compensation payments and would not be entitled to any representation on the Review Panel. As drafted, S. 839 eviscerates the intent of the NWPA to confer upon affected tribes the right to participate in the repository program as the equals of states.

It is important to note that the reverse argument works towards the same objection. A tribe could nominate a site and the surrounding state would be excluded from participating in the siting, characterization and construction process, as well as from sharing the compensation. If the development of public confidence has any remaining currency in this process, it is essential that the participation of states and tribes as envisioned in the NWPA must be preserved in attempts to reform that legislation. Therefore, any consideration of a repository or MRS site that could adversely impact an Indian tribe's off-reservation treaty rights _must_ include participation of the impacted tribes. Similarly, the tribes should also share in or receive a separate compensation package.

In addition, we think S. 839 alters the site selection process in an unacceptable way. We support the concept of compensating the state and/or tribes which host or are impacted by a nuclear waste facility, but we oppose these payments being a factor in siting decisions. Compensation should be paid to the state and/or tribal government after the best site has been found, not as a means of coercing the affected governments to "expedite" characterization and construction of the facility to the maximum extend practicable as the legislation presently reads.

We also strongly object to the compromising effect of the "incentive agreements" on the oversight authority of affected states and tribes. The NWPA established a repository program with two important objectives: first, the protection of the environment and public health and safety, and second the development of public confidence in nuclear waste disposal facilities. Congress determined that the independent oversight of affected states and tribes was critical to the realization of those objectives. Our experience in the repository program to date leads us to believe vigorous oversight of DOE activities is essential in order to protect our interests. The waiver of the right to seek judicial review of DOE decisions, DOE's power to unilaterally determine if a state or tribe is in default of the incentive agreement, and consequently in a payback situation, is coercive. DOE's authority to find default, which also is not subject to judicial review, would prevent states and tribal governments from assuming the responsibility that Congress envisioned. Finally, the elimination of the right to file a Notice of Disapproval removes an important, opportunity for

Congress to review the objections filed by an affected government. We are certain that the changes in the relationship between DOE and the affected states and tribes that would occur under S. 839 would not further the important objectives Congress established in the NWPA. In fact, they would be detrimental to those objectives.

For these reasons, we object to the approach of S. 839. We continue to support the framework of the NWPA as it was originally drafted. The repository program has not failed for lack of economic incentives or because of the onerous oversight of affected parties. The "incentive agreement" approach that weakens the authority of the affected governments would only exacerbate the programs problems in our view.

2. At the April 28 hearing, witnesses from the NRC staff, the National Academy of Sciences, and other experts testified concerning the technical adequacy of the work done by the Department of Energy in preparation for site characterization. They told us that the Department had done adequate preparation, that none of the three candidate repository sites should be disqualified at this time, and that site characteriazation should not be delayed. Yet, as I read your testimony, you feel there are still serious technical reasons not to go forward.

--Please tell us, are there other technical issues that you fee we are ignoring?

--Do you have technical concerns that you feel NRC is ignoring?

The National Academy of Sciences (NAS) and the Nuclear Regulatory Commission (NRC) have both publically stated that they did not review DOE's site selection decisions. The NAS reviewed only the Multiattribute Utility Analysis (MUA) as an analytic tool. They did not review the quality of DOE's data on the Department's interpretation of the data, nor did the NAS scrutinize the implementation of the MUA by DOE in developing their recommendation of sites for characterization.

The NRC did review the quality of DOE's data and the Department's interpretation of the data and found them suspect. Refer to the NRC staff comments on the Environmental Assessments dated December 22, 1986. In those comments the NRC found that many of DOE's findings of favorable site conditions at Hanford were based on sparse data that could just as easily support alternative findings adverse to DOE's interpretation. The NRC characterized many of DOE's favorable findings as "premature", "extremely tenous" and reached by means other than a "conservative approach". The NRC claimed many of DOE's Environmental Assessment conclusions were "overly favorable" or "optimistic". The findings and conclusions that were subject of NRC's critical review went to the heart of Hanford's containment capability. They included concerns about groundwater travel time, the tectonic suitability of the site, earthquake swarms, the life expectancy of the waste package and the potential for human interference in the vicinity of the site because of the presence of geothermal resources.

The NRC made similar critical comments about the Yucca Mountain and Deaf Smith sites as well. The NCR report concluded that DOE's claim concerning the superior performance of each site in meeting the EPA standard was "overly optimistic". Looking ahead to site characterizations, the NCR sounded the alarm against allowing DOE to proceed in their usual fashion. The NRC warned:

> "The significance of the above concerns is to DOE's ongoing preparation of the site characterization plans and eventually site characterization activities, since both the general over optimism as well as the specific concerns could result in inadequate testing programs and inadequate information at the time of licensing."

3. Witnesses stated at the April 28 hearing that it is necessary to go ahead with site characterization in order to resolve the technical concerns related to each of the candidate repository sites.

--Do you disagree with this?

ANSWER: There is no question but that eventually in site testing will be required to determine the ability of a site to meet the EPA standard and seek NRC's license. However, the more difficult issue we have raised concerns the relative merits of the sites DOE has selected for characterization. The Committee is aware that it will cost approximately $1 billion per site characterized, a 20 fold increase in characterization costs over those projected when the NWPA was passed. We have argued, and DOE agrees, that Hanford is the worst of the sites nominated for characterization. The technical issues raised by the NRC identified in our response to question 2 that raise the real possibility Hanford has several disqualifying factors in conjunction with Hanford's low ranking suggests an investment of $1 billion in that site would be unwise.

--What issues do you feel can be resolved--and potentially lead to disqualification of your site--prior to characterization, or prior to sinking exploratory shafts?

ANSWER: The following potential disqualifying factors should be further investigated prior to sinking an exploratory shaft at Hanford.

1. Groundwater travel time must be resolved by additional subsurface testing, including single-well pump tests and "large scale hydrologic stress" tests (possibly more than the one test now planned). The Exploratory Shaft is not needed to resolve this issue.

2. Earthquake potential. DOE denies that seismic events are associated with major faults, and has not looked at the possibility that repository construction itself may trigger swarm earthquakes due to strain relief. This issue may be resolved with sufficient surface geophysical surveys, shallow trenching, and seismic monitoring. The Exploratory Shaft is not needed to resolve this issue.

3. Human intereference (mienral resources). Locations for determining the most probable sites for deep drilling to test oil, gas, coal, geothermal potential at Hanford may be found by geophysical surveys at the surface. However, at least one, and possibly more than one, deep (greater than 10,000 ft.) hole must be drilled to confirm the actual presence of these resources. The Exploratory shaft is not needed to resolve this issue.

4. You state in your testimony that the Nuclear Waste Policy Act is a good law. But you also state that the Department's implementation has been biased and flawed and you appear to suggest that we must go back to the very beginning.

--What would you have us do differently in implementing the law?

ANSWER: The Umatilla Tribe has argued from the beginning that the NWPA established a fair and sensible process to site and construct nuclear waste facilities. We have testified that the repository program has failed because of DOE's poor implementation of the program, not because of deficiencies in the NWPA. It is for that reason the Tribe supports HR 2888 which would bring the repository proram to a temporary halt while an expert commission investigates DOE's implemention of their responsibilities under the NWPA and reports their recommendations to Congress on how to get the repository program back on track.

--Do we need to amend the law? How?

ANSWER: The law should not be changed until after an expert commission reviews the implementation of the NWPA and recommends needed mid course corrections.

--Isn't it true that, when the 1982 Act was passed, it was assumed that ongoing work in screening potential repository sites under DOE's existing waste program would continue?

ANSWER: Yes, it was assumed that DOE would continue screening sites in their existing waste program. However, there was no prohibition against investigating other sites for the first repository.

--Given that work in tuff has been going on at Yucca Mountain since 1978, at Hanford in basalt since 1968, and in salt in Texas since 1980, isn't it appropriate that these sites might be selected for continued study under the program established by the

Nuclear Waste Policy Act?

ANSWER: Yes, _if_ they are the best sites. The waste isolation capabilities of a specific site are not related to the length of time the area has been studied for a repository or the amount of dollars spent on the site specific research. However, according to DOE's own analysis, Hanford is the worst of the 5 sites nominated for characterization. This fact, coupled with the lack of conservatism in the EA's as recognized by the NRC, strongly suggest an independent review of DOE's repository program, including the basis of siting decisions, is appropriate before characterization begins.

--Do you really feel that all site screening and investigation should have started anew after passage of the 1982 Act?

ANSWER: If this nation is committed to finding the best site, a national screening would be essential. However, the requirements of the NWPA do not appear to necessitate such a screening.

5. Suppose you could make a list of the things DOE must do differently within the framework of the Act. Assume that if DOE agreed to make the changes on the list, then you would cooperate in allowing site characterization to proceed.

--Could such a list be made? Or do you simply want to be dropped from consideration?

ANSWER: Yes. The Umatilla Tribe has always been willing to cooperate in a repository program implemented as Congress intended. We feel Hanford would not be a site selected for characterization in an unbiased site selection process based upon technical merit, however.

--What would be on the list?

ANSWER: As stated earlier, the Tribe supports HR 2888 which would establish a commission to study DOE's implementation of the NWPA. The bill requires the commission to scrutinize the important and controversial aspects of the repository program. The list of things DOE must do differently can be found in those issues the commission is required to review. They include:

a) The adequacy of the site selection guidelines;

b) The adequacy of the Environmental Assessments;

c) DOE's site ranking methodology used to select sites for characterization;

d) DOE's efforts to consult and cooperate with affected states and tribes;

e) Whether DOE should continue to have the responsibility to implement the NWPA.

f) The advisability of providing additional economic compensation to the host state or tribe after selection of the site; and

g) the possible role and effectiveness of an independent technical peer review organization to advise and assist DOE or other federal agency's implementation of the NWPA.

6. It appears to me that your complaints about the waste program are largely related to the process carried out by the Department.

--Is that an accurate assessment?

ANSWER: Many of our complaints have focused on procedural inadequacies. But, procedural deficiencies should not be divorced from their substantive consequences. A repository program that fails to consult and cooperate with affected parties, as DOE's program has and does, will certainly lead to substantive complaints. It was precisely for this reason that Congress built in the oversight authority and consultation requirements for affected states and tribes. And, as you know, DOE's failure to consult with affected parties helps explain the stalemate in the repository program and the dozens of lawsuits it has spawned.

The affected states and tribes requested on several occasions in 1985 and 1986 to participate in the review of DOE's Multiattribute Utility Analysis and its implementation. (Remember, the MUA was a different methodology than those proposed in the draft EAs on which affected parties had commented.) We requested that we be invited to DOE's meetings with the National Academy of Sciences to review the MUA. DOE refused our requests. The NAS informed DOE that outside experts should review DOE's use of the MUA to select sites for characterization. DOE rejected that advice as well.

DOE's failure to involve the affected parties in this review could be described as procedural. But, its consequences are substantive. The use of the MUA by DOE is considered deficient by Dr. Ralph Keeney who co-authored the ranking methodology utilized by DOE. Dr. Keeney, who was retained by DOE because of his expertise, recommended that a portfolio analysis be used to select sites. The NAS retained Professor Detlof von Winterfeldt to assist them in their review of the MUA because of his expertise in the field of decision analysis. Professor von Winterfeldt stated that DOE's conclusions in the Recommendation Report "are based on selective and misleading use of the analysis described in the Methodology Report."

If anything is clear in the brief life of the NWPA, it is that DOE cannot be trusted to faithfully implement its responsibilities under the Act consistent with the Act's goals of protecting public health and the environment and developing public confidence in nuclear waste facilities. That explains the oversight authority Congress so insightfully bestowed upon affected states and tribes. The procedural deficiencies in DOE's repository program has, in our view, jeapordized the program.

It should also be pointed out that we have numerous complaints that are substantive as well. A summary of those complaints may be found in our responses to questions number 2 and 3.

CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION RESPONSE TO QUESTIONS FROM SENATOR McCLURE

Hearing on S. 839
April 29, 1987

1. a. Have DOE's interactions with the States and Indian Tribes improved since passage of the FY'87 Continuing Resolution (which was highly critical of DOE's actions to date)? Please elaborate.

ANSWER. DOE's progress is breathing life into the consultation and cooperation provisions of the NWPA have been frustrating and slow. Regarding the repository program in general, the interactions between DOE and affected parties continue to deteriorate. It was evident at the last DOE Quarterly Meeting with affected parties in May that the level of cynicism and mistrust of DOE has reached an all time high.

A few issues that arose at that meeting demonstrate why relations between DOE and affected parties are not improving. DOE announced that they intended to submit their final Mission Plan Amendment to Congress without any substantive changes from the draft amendment we had commented upon. This is another example of the fact that affected parties comments on so called "draft" documents have no substantive impact since the Department's decision has already been made. This is not the consultation process Congress encouraged DOE to begin in the FY'87 Continuing Resolution.

In addition to the difficulty of influencing DOE's repository program, the Department appears unwilling to give us the time we need to develop comments. Presently, DOE intends to allow affected parties and the public only 90 days to review their Site Characterization Plans (SCPs). These SCPs are going to massive documents covering 10,000 pages and containing 2,000 references. DOE argues they are sending advance copies of SCP chapters to the affected parties for their early review. But, DOE is revising the advance chapters we have received, so their early release has limited use to us. Furthermore, the most important chapter, Chapter 8, which contains DOE's site specific plans for each site, will not be released early. The affected parties have repeatedly requested 180 days, at a minimum, to review and comment on the SCP. DOE initially refused claiming their schedule did not permit such an extension. In May DOE relctantly promised to reconsider our request for more time. As yet, no decision to extend the comment period has been made with the Hanford SCP due out next month. The Umatilla Tribe does not view these issues as examples of improving consultation relationships between DOE and affected parties.

The "fencing" of $79 million in DOE's FY'87 budget was intended in part to encourage DOE to do what it could to engage affected parties in consultation and cooperation agreements negotiations. The Umatilla Tribe was the only affected party in C and C negotiations when the FY'87 Continuing Resolution was passed. The CTUIR suspended those negotiations in January 1987 because of several unresolved issues concerning the authority of affected tribes to participate in the repository program and because DOE had failed to finalize our FY'87 grant. One of the issues concerning tribal authority under the NWPA, specifically the entitlement to impact assistance under Section 118(b), was eventually decided in favor of the tribes. However, DOE has still failed to respond to our other concerns. Our FY'87 grant was finally approved in July, the 10th month of the fiscal year. And, DOE has not yet responded to a letter we sent in December 1986 to Ben Rusche asking for clarification of DOE's interpretation of the availability of the provisions in Seciton 117(c) to affected Indian tribes. The resolution of this issue was directly relevant to our negotiations because Section 117(c) lists the provisions that Congress felt should be included in a C and C agreement. We recently sent a letter to Mr. Steve Kale, DOE's Director of the Office of Geologic Repositories, summarizing the events leading to our suspension of negotiations and the present status of that stalemate. A copy of that letter is attached. As of August 6, 1987, we have not received a response to this correspondence.

DOE's failure to at least respond to the issues which caused the suspension of our negotiations demonstrated to us their weak commitment to the C and C process.

DOE has taken some action in an effort to implement suggestions made by the General Accounting Office to improve consultation with affected parties. GAO suggested that all DOE coordinating groups should be opened up to affected parties. The affected states and tribes had been making that request for over a year prior to GAO's recommendation with only limited success. Following GAO's suggestion, DOE opened up all their coordinating groups to us.

GAO also suggested DOE make a serious effort to work with affected parties to define consultation and cooperation. DOE responded by calling a meeting last November in New Orleans. DOE brought no proposals, but a dialogue was initiated. DOE referenced this meeting in their Draft Mission Plan Amendment and stated they intended a follow-up meeting before the final amendment was released. No such meeting was ever scheduled.

The goal of the Congress in withholding $79 million of DOE's FY'87 budget to give DOE an incentive to improve the consultation and cooperation relationships the Department has with affected parties has not succeeded. Only one affected party is involved in C and C negotiations, which reflects the lack of confidence affected parties have in DOE.

The Congress should demonstrate their continued displeasure with DOE's failure to properly implement the consultation and cooperation requirements of the NWPA and prohibit the release of the fenced $79 million during this fiscal year.

1[illegible]b. Would the provisions of S. 839 improve your ability to provide meaningful input and oversight with respect to DOE's site selection process? Why or why not?

ANSWER. No. S. 839 has been designed to restrict the oversight authority of affected parties, not improve them. Specifically, the bill would:

(1) eliminate the authority of affected parties to file a Notice of Disapproval. Section 402(b)(4);

(2) change the function of affected parties from one of independent oversight to one where an affected government would

be under a contractual obligation to "expedite characterization of the site, construction of the facility, preparation of necessary documents, and the like." Section 402(b)(1);

(3) eliminate the right of affected parties to seek judicial review of DOE decisions. Section 402(b)(3);

(4) compromise the ability of an affected party to challenge any DOE decision in any forum since the Secretary of DOE has the authority to find the affected government in default of the incentive agreement which would require the state or tribe to return all payments received, plus interest. Section 406(a). This feature alone would give DOE great economic leverage in the form of hundreds of millions of dollars over an affected party; and

(5) creates a Review Panel that has only advisory authority which DOE could easily disregard without consequence. Section 403.

S. 830 was not intended to improve the oversight authority of affected parties. It will have the opposite effect. Everything that has occurred in the repository program to date argues against giving DOE a freer hand in the repository program as S. 839 would do. For that reason, the affected states and tribes spoke in unison in opposition to S. 839 at the Committee's hearing in April.

2. Would you be more confident in the credibility of DOE's technical and scientific work if it were monitored and perhaps even verified by an independent scientific body such as the NAS?

ANSWER. Our answer to this question is a qualified yes. We remain greatly concerned by DOE's exploitation of the NAS approval of their use of the Multiattribute Utility Analysis (MUA) to select sites for characterization. The NAS did not review the quality of DOE's underlying data and did not review DOE's implementation of the MUA in the Recommendation Report. Therefore, the scope of the NAS review was rather limited.

Should an independent scientific panel be established to peer review DOE's characterization activities, it is critical that they review the whole story from primary data collection, its analysis and the interpretation of data relative to a particular site's performance. The panel's deliberations should be open to representatives from affected parties. DOE prohibited our participation in their interactions with NAS concerning the MUA.

3. There is obviously a marked discrepancy between your interpretation of the suitability of your site for accepting wastes, and the interpretation of DOE. Furthermore, your evidence emphasizes the negatives in the preliminary data, and in NRC's and NAS's comments with respect to siting guidelines, the environmental assessments, the selection methodology, etc. DOE, on the other hand, tends to stress the positives of the program's performance and in feedback from other agencies.

Aside from the "political" biases you claim were inherent in DOE's siting selection process, all other concerns that you list can only be verified through a more detailed scientific data base. Even NRC and NAS concurred on these points in their testimony yesterday.

Why are you not willing to take the next step to prove, scientifically the basis for your arguments that your site is unsuitable?

ANSWER: For two reasons.

(1) The selection process was flawed and characterization of sites, which is expected to cost a billion dollars per site, should not begin until a fair selection process produces superior sites. That has not yet occurred. Furthermore, how can anyone

expect the Umatilla Tribe to have confidence in DOE's site characterization studies after the charade we've been through in the siting process; and

(2) DOE has failed to include an adequate level of conservatism in its technical programs and in their planning for site characterization studies. The NRC came to the same conclusion when they reviewed DOE's Environmental Assessments. Concerning the site characterization phase, the NRC warned:

> "The significance of the above concerns [DOE's optimistic assessment of site performance] is to DOE's ongoing preparation of the SCP's and eventually to site characterization activities, since both the general over optimism as well as the specific concerns could result in inadeqate testing programs and inadequate information at the time of licensing." [Emphasis added.]

Our preliminary reviews of the draft SCP chapters indicates the NRC warning has not had much impact on DOE. In fact, we have reviewed the reports prepared by members of DOE's own SCP peer review team (known as the Licensing Assurance Review Team) and they echo much of what the NRC warned against. DOE plans and assumptions in critical areas affecting the waste containment capacilities of the site are overly optimistic or they fail to conservatively assess the available data. Both from a procedural and substantive perspective, DOE's repository program has failed to generate the public confidence Congress appropriately found essential to nuclear waste facilities. To proceed with the next expensive phase of the repository program, site characterization, given the flawed implementation of the NWPA to date, is not in the interests of the utilities or the public.

NEZ PERCE NUCLEAR WASTE POLICY ACT PROGRAM
RESPONSES TO FOLLOW-UP QUESTIONS FROM
SENATOR JOHNSTON AND SENATOR McCLURE
APRIL 29, 1987 HEARING ON S. 839

QUESTION:

*It appears from your testimony that one of your major concerns about S. 839 is that, as drafted, it could remove the oversight role of the affected Indian tribes.

-- Please tell us how the legislation should be changed to ensure that an effective oversight role is preserved.

-- Please tell us what other changes could be made in the legislation to make it acceptable.

*Would the provisions of S. 839 improve your ability to provide meaningful input and oversight with respect to DOE's site selection process? Why or why not?
[JOHNSTON Q.1 & McCLURE Q.1.b.]

RESPONSE:

S. 839 does not assist the Tribe in its efforts to obtain a proper oversight role in the NWPA process. Although on the surface, S. 839 envisions a more active role for the Tribe or state that serves a the host to the repository, that role is illusionary.

As drafted the provisions defining the party with whom the special agreement is to be made includes only the "host" state or tribe. While we would assert that S. 839 does not affect the existing oversight rights the three affected tribes have under the NWPA were the state of Washington to reach an agreement with DOE, we have no doubt whatsoever that DOE would take a more restrictive interpretation. DOE would attempt to deny the tribes any role, let alone the oversight role that Congress assigned in the NWPA.

S. 839 would take from the Tribes and states their two fundamental leverage points in their dealings with DOE. First it would waive the requirements of NEPA. NEPA has developed into a demanding procedure for those who engage in activities that degrade the environment and it is the most critical protection for public health and safety in the entire NWPA framework. Because of the vagaries of the NRC processes, the issuance of a construction authorization or operational license from that body should be regarded as the final word in connection with the protection of the public health and safety from the adverse impacts of a repository.

Moreover, the NRC is, for better or worse, a political body. It is selected by the President, with the advice and consent of the Senate, necessarily suggesting that over time, an administration can place on the NRC individuals whose views coincide with those of the particular administration. It is our belief that the existing administration does not share our reasoned doubt concerning the safety of the current practices of the nuclear industry. To the extent, that this administration (or any other administration) appoints to the NRC individuals who share its views, and who do not have a proper concern as to the dangers proposed by the generation of energy through the use of radioactive material, the NRC may be filled with persons who are unwilling to ask the difficult questions concerning the safety of radioactive material.

All of this is to say that the NRC is in the end a political body. Issues vast technical and scientific import should not be solely resolved in the relatively politically charged atmosphere of a politically appointed Commission. Instead, we prefer that such issues be resolved in the least political branch of government - the judicial branch. By removing the ability of the host state or Tribe to assert a NEPA violation in the courts, S. 839 removes a critical safeguard from the NWPA process. Safeguards that Congress built into NWPA because of its experience with and distrust of political decision making in the atomic energy field.

S. 839 would also deny the host state or Tribe the right to disapprove a decision to apply for a construction license for a repository. The NRC decision therefore would be beyond review by either Congress or the Courts. In a matter so critical as the location of a repository that will dispose of waste that is dangerously radioactive for thousands of years, the least that a host government should ask is the right to have other branches of government carefully review the decision of any administration.

An additional, albeit unintended, issue is that S. 839 deprives any appropriately interested parties from effective participation in an oversight role. For example, the Nez Perce Tribe could under S. 839 agree to accept a repository on its reservation, and the state of Idaho would have play no role in the decision-making process. There is no provision for the situation where both a Tribe and a state have a very clear interest. At a minimum S. 839 should be amended to provide whenever a host government pursuant to a S. 839 agreement waives its NEPA rights and its right to veto the siting decision, any affected state or Tribe, as defined in the NWPA, retains any rights they may have under the NWPA in connection with the proposed site.

With respect to the inquiry as to whether other changes could make S. 839 acceptable, we believe that the NWPA process was acceptable from the start. Congress established the elaborate NWPA process to guard against biased and politicized decision-making by the bureaucracy. It is only the Department of Energy's failure to carry out the clear commands of the NWPA that has rendered the success of the program improbable. As we have testified, we believe that an independent review of the process and resultant mid-course correction is appropriate at this point.

QUESTION:

*At the April 28th hearing, witnesses from the NRC staff, the National Academy of Sciences, and other experts testified concerning the technical adequacy of the work done by the Department of Energy in preparation for site characterization. They told us that the Department had done adequate preparation, that none of the three candidate repository sites should be disqualified at this time, and that site characterization should not be delayed. Yet, as I read your testimony, you feel there are serious technical reasons not to go forward.

-- Please tell us, are there other technical issues that you feel we are ignoring?

-- Do you have technical concerns that you feel NRC is ignoring?

*There is obviously a marked discrepancy between your interpretation of the suitability of your site for accepting wastes, and the interpretation of DOE. Furthermore, your evidence emphasizes the negatives in the preliminary data, and in NRC's and NAS's comments with respect to siting guidelines, the environmental assessments, the selection methodology, etc. DOE, on the other hand, tends to stress the positives of the program's performance and in feedback from other agencies.

Aside from the "political" biases you claim were inherent in DOE's siting selection process, all other concerns you list can only be verified through a more detailed scientific data base. Even the NRC and NAS concurred on these points in their testimony yesterday.

Why are you not willing to take the next step to prove, scientifically the basis for your arguments that your site is unsuitable?

[Jonston Q.2 and McClure Q.3]

RESPONSE:

Underlying these questions seems to be a perception that under-emphasizes the value of process in reaching a proper technical result. This represents perhaps our most fundamental disagreement with S. 839. S. 839 seeks to short-cut the process by which the judgements of scientists and technicians may be confirmed. To be sure, such scientists and technicians must play a key role, the driving force, in the process of attempting to safely dispose of radioactive waste. The judgement of scientists and technicians, however must be subject to review.

That is to say, if scientists and technicians cannot persuade the public that the disposal of HLW can be safely undertaken, then they have not succeeded in their technical studies and scientific judgments. Indeed, they may not be addressing the right questions. That is the nature of American government. We do not vest utter discretion in any of the three branches of government; and, in matters of the national welfare we do not accept blindly the opinion of any single person or group of persons. The wisdom in this system of government and of the network and interrelationship of the rights enjoyed by Americans under the Constitution, is that it brings the skills of many disciplines to any particular problem. Ideally the result of this combined wisdom will be national consensus of the proper solution to any given national problem. DOE always has attempted to limit the participation of the several states, the Indian nations, local governments, the courts, and the Congress. It is for this reason that we complain so vehemently at DOE attempts to limit Tribal participation in oversight of the process to the bare minimum. This process is critically important in that it allows each of us to make our own judgments as to the claims of safety made by DOE. The Nuclear

Waste Program, and, indeed, the nuclear waste industry generally, seem to claim some sort of exemption from this process of public scrutiny. The american system seeks to prohibit those activities which are not consistent with the views of the public on the matter.

With that as prologue, we acknowledge again, that we cannot prove at this early date that the Hanford site cannot be made to comply with the applicable regulations regarding the safe disposal of HLW. All that we have said, and what we may say again, is that Hanford is a demonstrably inferior site to the others that might have been chosen for characterization. This is not a political assessment. This is, indeed, the assessment of DOE itself. We continue to ask why the Department would overlook objective scientific data showing Hanford to be the least likely to be suitable, unless its motives were political.

It is here that the failure in process becomes so critical. The states have had no opportunity to prover the sites in fact are unsuitable, particularly in dealing with a DOE that seems quite satisfied that any natural impediments to a site can be overcome with enough engineers. Such reliance on engineering, not to mention the expense that it entails, seems inappropriate to the careful process designed by Congress. If the rigors of the process do not have as their intent the selection of the best site, then DOE will have wasted many years in time and countless dollars in a process that could have been resolved in the first place by having Congress pick a site.

With respect to the specific questions concerning technical issues that may have been ignored. We feel that for the most part the NRC has done an adequate job of monitoring the the nuclear waste program.. Perhaps the only key concern that we have regarding the suitability of the Hanford site that has not been addressed by the NRC to an appropriate degree is the potential for recoverable amounts of oil and gas in the Hanford area, and the potential for human interference with the repository site. Early research indicates that there is considerable potential for the existence or oil and gas reserves that are recoverable economically, either now or in the future.

QUESTION:

*Witnesses stated at the April 28 hearing that it is necessary to go ahead with site characterization in order to resolve the technical concerns related to each of the candidate repository sites.

-- Do you agree with this?

-- What issues do you feel can be resolved--and potentially lead to disqualification of your site--prior to characterization, or prior to sinking of shafts?

[Johnston Q.3]

RESPONSE:

As indicated in our testimony and above, we believe that the process leading to this point of characterization of the three sites has been conducted in a significantly flawed manner, and that Hanford should not be in the final three sites selected. With respect to issues that may be resolved prior to the sinking of exploratory shafts at the Hanford site, we count several.

First, it seems self-evident that comprehensive hydrology testing must be completed before sinking an exploratory shaft. The dislocation created by the drilling of an exploratory shaft could discredit the results of any hydrology testing that is not completed prior to the commencement of drilling.

The issue raised early with respect to oil and gas reserves will not definitively settled by characterization. Thus we suggest that all possible surface activities that may reveal data suggesting answers should be conducted before drilling. We note that this approach has some support at the NRC.

QUESTION:

*You state in your testimony that the NWPA is a good law. But you also state that the Department's implementation has been biased and flaws and you appear to suggest that we go back to the very beginning.

-- What would you have us do differently in implementing the law?

-- Do we need to amend the law? How?

-- Isn't it true that, when the 1982 Act was passed, it was assumed that ongoing DOE work in screening potential repository sites under DOE's existing waste program would continue?

-- Given that work in tuff has been going on at Yucca Mountain since 1978, at Hanford in basalt since 1968, and in salt in Texas since 1980, isn't it appropriate that these sites might be selected for continued study under the program established by the NWPA?

-- Do you really feel that all site screening and investigation should be started anew after the passage of the 1982 law?

[Johnston Q.4]

RESPONSE:

As discussed previously, we wish to make clear our belief that the process was flawed from its beginning and that it must go back to that point in order to achieve the Act's goal of inspiring public confidence in the safety of the disposal of high-level radioactive waste. The point is not to justify pre-NWPA activities, but to find the best possible site.

QUESTION:

*Suppose you could make a list of things DOE must do differently within the framework of the Act. Assume that if DOE agreed to make the changes on the list, then you would cooperate in allowing site characterization to proceed.

-- Could such a list be made? Or do you simply want to be dropped from consideration?

-- What would be on such a list?

[Johnston Q.5]

RESPONSE:

Such a list cannot be made because the question assumes that we are willing to live with the result of the process to date. We believe the process to be fatally flawed virtually from its inception, and that there are no circumstances under which we would drop our opposition to site characterization being conducted as the end result of the first-round repository siting process as it was conducted.

QUESTION:

*It appears to me that your complaints about the waste program are largely related to process carried out by the Department.

-- Is that an accurate assessment?

[Johnston Q.6]

RESPONSE:

Our concerns are, indeed, process related. But that is because we believe that process is the only way to guarantee the accuracy of scientific and technical judgments. We believe that the process of American government is a sound one, even though it yields occasionally unsound results. No people is more aware of the injustices that can result from the process of American law than the Nez Perce. But in this day and age, in a more enlightened and civilized nation, the Tribe is required to entrust its fate to the guarantees provided by the process. We will insist, therefore, that the process be honored. DOE's failure to honor process has resulted in our belief that the first-round site selection is fatally and irremediably flawed. Until the process is implemented fairly, we will not concede to the soundness of any DOE technical and scientific judgment.

QUESTION:

*Have DOE's interactions with the States and Indian Tribes improved since the passage of the FY 87 Continuing Resolution (which was highly critical of DOE's actions to date)? Please elaborate.

[McClure Q.1.a.]

RESPONSE:

Although our relationship with DOE still is not without very serious difficulties, the Nez Perce Tribe has experienced an improvement in its relationship with DOE since the 1987 Continuing Resolution.

Our belief that the relationship has improved stems primiarily from correspondence between the Tribe and DOE on the matter of commencing consultation and cooperation (C & C) agreement negotiations. More specifically, we were able to resolve with DOE difficult issues concerning the Tribe's eligibility for impact assistance under Section 118 (b)(3) of the NWPA as well as the scope of C & C negotiations under Section 117(c). While we cannot know, of course, precisely what motivated DOE to modify its views on matters that long have been sources of contention between us, it seems self-evident that the Continuing Resolution was a key factor in DOE's thinking. In so stating we do not intend to denigrate the good motives of some within the Department who advocated on our behalf. The personal interest of Ben Rusche, which we believe was at least in part motivated by the CR, certainly had a significant impact on the outcome.

Because it has become evident that we had the attention of key decision-makers within the Department, and because these decision-makers have demonstrated flexibility is resolving some of the NWPA status issues with us, the Nez Perce Tribe chosen to begin C & C agreement negotiations with DOE. An informal negotiating session was held in Lewiston, Idaho concerning procedures that would govern the negotiations. As a result, we have agreed with the Department on procedures that will expedite progress in negotiations. The first negotiating session was held on August 5-6, 1987.

The true test of the Department's good faith will come in the C & C negotiations process. It remains to be seen whether DOE will be forthcoming and flexible in its approach.

RESPONSES TO FOLLOW-UP QUESTIONS FOR LOCAL GOVERNMENTS FROM SENATORS JOHNSTON AND MCCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
WASTE DEPOSIT IMPACT COMMITTEE, DEAF SMITH COUNTY, TEXAS
JULY 22, 1987

1. What do you feel is the proper role for the local community and government in siting a nuclear waste facility?

Once the candidate sites for characterization have been established, the situs governments and community must have a substantial and meaningful role in ensuring that the public health and safety and environmental issues of local concern are addressed. This can only be assured by meaningful participation in Department of Energy (DOE) and state planning processes and statutory standing as a designated party in the program evolution. Further, affected local governments and communities must have assurance that any socioeconomic impacts brought about by the program are mitigated such that adverse consequences are kept to a minimum and maximum benefits are achieved. In the case of the Deaf Smith County site, the Waste Deposit Impact Committee, as the situs government organization, should also be available to assist landowners, should they request it, to ensure that all relevant due considerations are accorded to them and they receive maximum compensation for the Federal Government's acquisition and use of their land.

2. What provision should be included in S839 to ensure that the local community has an effective voice in the process?

The attached language is recommended to be incorporated that addresses the definition and role of a situs government as separate and distinct from an affected government (See Attachment A).

In addition, a council of affected governments, including the situs government, should be established by the Governor of each state to ensure that local and regional impacts are identified and mitigated. This council would be responsible for establishing a semiannual recommendation to the Governor through a "Local Affected Community Mitigation Plan" for funding through the Nuclear Waste Fund. To ensure fairness equity and objectivity in carrying out its review responsibilities, the Council would establish evaluation criteria for mitigation requests.

3. What is your opinion of the review panel included in S839, should it be structured differently to better accomplish its goal?

The review panel is a necessary concept and has been structured within the legislation in a very positive way. However, four modifications are recommended for your consideration:

a. The review panel should have greater autonomy from the Department of Energy (DOE) to effectively carry out an oversight mission.

b. The Chairman should be appointed by the Governor, upon consultation with the Secretary and the State's Congressional delegation.

c. The community which bears the principle burden of the designation of a Nuclear Waste Repository site (the "situs jurisdiction"); and also the greatest responsibility for local protection of the public's health and safety and the environment; should have a specifically designated place on the panel. The other local position ought to be appointed by the Council of Affected Governments described in Question No. 2.

d. Finally, the panel should have the authority, under specific predetermined parameters, to cause a "stop work" action until a threatening or potential threatening condition or activity can be evaluated.

4.a How responsive has your state government been to our needs and concerns to date?

The State of Texas has not only been responsive to the requests of the local community but actively promoted the development of the Waste Deposit Impact Committee. The state recognizes the importance of having direct local involvement for the long-term thoroughness and credibility of the state's efforts. Funding of the local level has been to the degree necessary to carry out its program. A new funding application will soon be submitted for consideration for the Contract Year 1988 beginning September 1, 1987.

4.b To what extent do the provisions of S839 add confidence that you will be actively involved and receive adequate funding for that involvement in the activities related to site characterization should your state elect to enter into agreement with DOE?

The approach outlined under Question No. 2 for a situs government and affected governments would give the WDIC greater confidence.

5.a Based on the testimony we received yesterday from the National Academy of Sciences, the NRC and others the waste program to date does not lack for technical credibility. Only through the detailed site characterization process will we be able to identify technical flaws in the site suitability for for disposal of wastes. Do you agree?

The Committee's primary consideration in this regard is that all work and decisions associated with this project be based on an objective, scientifically and technically sound methodology. If it is necessary to proceed, the Committee concurs that site characterization, if carried out in the manner here described, would be the best way to assess the site's suitability for disposal of wastes. The Committee has taken a position of "active neutrality" regarding the selection process used to establish the candidate site for characterization and the Secretary's preliminary determination of the suitability of the Deaf Smith site.

5.b If you have serious concerns about the technical suitability of your site, why wouldn't you be willing to proceed with full site characterization, along with the NAS, NRC, and state oversight, to better substantiate (or alleviate) your concerns?

To reiterate the above, the Committee has not established a position regarding the technical merits of the selection process for candidate sites. It is aware of the state's technical position regarding this issue and defers the responsibility for that assessment to the Governor's office. The Committee is currently building a staff capability to provide competent technical local oversight of the characterization process, collaborating with the State wherever feasible and appropriate.

ATTACHMENT A
(See response to Question 2)

"Participation of Situs Governments

"Section ___. (a) The Secretary and the Nuclear Regulatory Commission shall assist situs governments in participation in decision-making processes related to the siting, licensing, construction or operation of any high-level waste repository or monitored retrievable storage facility.

"(b) The Secretary shall assure that the interests of situs governments are fully considered in negotiations leading toward agreements or parts of agreements which directly affect situs governments, and which are related to the siting, licensing, construction or operation of any high-level waste repository or monitored retrievable storage facility, including agreements related to the following:

"(1) emergency management and planning;

"(2) mitigation of program impacts on local jurisdictions' budget and service delivery systems such as local transportation, community water supply, schools, hospitals, sanitation and other community services;

"(3) oversight for the protection of the public health and safety and the environment;

"(4) distribution of financial assistance or compensation funds, or

"(5) administration of impact mitigation programs.

"(c) The Secretary shall enter into agreements with situs governments establishing principles and procedures for interactions between the Department of Energy and the situs governments on issues relating to site characterization, repository or monitored retrievable storage facilities, including issues specified in section ___(b)(1) through ___(b)(5). Such agreements shall include a mechanism for resolving differences.

"(d) A situs government shall be defined as a unit of general local government whose geographic boundary includes, or is within, or is adjacent to a repository candidate, repository or monitored retrievable storage facility site. A unit of general local government includes special purpose taxing districts.

"(e) In participating under this section, a situs government may enter into agreements with other affected governments for the purpose of:

"(1) Participation in site characterization repository or monitored retrievable storage facility activities, or

"(2) Distribution of any financial assistance, compensation or other payments made to situs governments and related to repository or monitored retrievable storage facilities.

EXPLANATION

Section (d) provides a definition of "situs" governments which distinguishes them from affected or local government. The definition also would make clear that a special-purpose taxing district could be considered a unit of local government and therefore eligible for payments-equal-to-taxes under the NWPA.

This new section provides a mechanism under which the governments and taxing districts immediately impacted by characterization, repository or monitored retrievable storage facility sites can participate in decisions in which the greatest impact occurs in their communities. It requires the Secretary of Energy to assure that situs governments' interests are represented and considered in negotiations. It also requires the Secretary to enter into agreements with situs governments that would cover specifically local aspects of radioactive waste facility siting, including emergency planning and community impacts.

The section does not replace or amend the consultation requirements of the Nuclear Waste Policy Act applicable to relations between the Secretary and the states or Indian tribes. It preserves the states and tribes as the primary spokesmen and decision-makers for health and safety issues, impact mitigation and other facility-related policy and planning. It does require that the Secretary consider the specific, local impacts and public health, safety and environmental issues of facilities in carrying out the primary consultation responsibilities.

Section 407(e) provides that situs governments can enter into agreements with other affected governments for participation in planning, oversight or distribution of financial assistance. This is proposed to accommodate existing consortiums of governments in Washington and Texas which are now cooperating in facility oversight.

APPENDIX II

Additional Material Submitted for the Record

STATEMENT OF SENATOR BROCK ADAMS

BEFORE THE SENATE ENERGY COMMITTEE

MAY 7, 1987

S. 839, "NUCLEAR WASTE POLICY ACT AMENDMENTS"

Mr. Chairman, I appreciate the opportunity to appear before this Committee and explain my position on S. 839.

Let me begin by indicating that while I do not support this bill, I think I understand the frustration which motivates it. At Hanford, we have 61.4 million gallons of high-level radioactive waste. It is stored in 149 single shell tanks, some dating back to the Manhattan Project, and 20 newer double shell tanks. 59 of the single shell tanks are confirmed or suspected of leaking high-level waste. No one has a greater interest in having a successful resolution of the high-level waste disposal issue than the people of Washington State. And no one has seen a more arbitrary and counterproductive effort to site a repository.

Clearly, when the schedule for developing a nuclear waste repository has officially slipped five years in the four since the Nuclear Waste Policy Act was passed, something is amiss. I must respectfully disagree, however, with what seems to be the central premise of S. 839; that the problem is the Not-In-My-Backyard Syndrome. Mr. Chairman, we already have the waste in our backyard and every delay in the repository program, every public relations blunder by the Department of Energy, every technical criticism ignored, ultimately means that the nuclear waste is going to stay right where it is.

I will not deny that the citizens of my state and the other states proposed for either the first or second repository or a monitored retrievable storage facility have been very critical of the DOE's decisions to site those facilites within the borders of their states. But let me be blunt, the response to that criticism by the Department of Energy has been nothing short of incendiary.

DOE has made siting decisions on the basis of blatant political calculations while subverting scientific considerations. DOE has repeatedly resisted obtaining essential geologic data prior to making siting decisions. Instead, DOE has made data collection an all-or-nothing proposition by rolling virtually all meaningful data gathering into the site characterization phase at a combined cost of roughly $1 billion per site. Confidence and credibility have also suffered from the simple fact that DOE's technical contractors have often had an inherent conflict of interest since follow-on contracts depend upon finding a site suitable.

To make matters still worse, technical information DOE did gather is highly suspect since DOE had issued stop work orders at both Hanford and Nevada in early 1986 because of quality assurance problems with its technical contractors. And DOE has made a mockery of the the "consultation and cooperation" process Congress established in the Nuclear Waste Policy Act and forced states to go to court just to get funding to conduct independent technical evaluation studies.

Without repeating all of the testimony heard by your committee over the past four years on DOE's conduct of this program, I think its time to stop blaming the states and Indian tribes and put it where it belongs; on the Department of Energy.

While I recognize the efforts of the authors of S. 839 to try to resolve the gridlock in which the high-level waste program has mired itself, the legislation does not address the fundamental problem that the DOE has been playing with a marked deck. Notwithstanding all of the money DOE has spent going through the motions of selecting sites based on a methodical, scientific basis, the May 28, 1986 decision clearly demonstrated that DOE was simply picking sites that were the most politically expedient. Sites like Washington and Nevada were picked a dozen years ago because they were owned by the Federal Government and not as the result of thorough scientific analysis and nothing DOE has done since has materially altered this fact.

Mr. Chairman, DOE is literally selecting the sites for the Nation's nuclear waste repository with a roll of the dice. DOE has three sites that it doesn't know enough about and is betting that after it spends $1 billion at each it will come up with a winner. An alternative plan advanced by some, is to take these same three first round sites, sites that everyone concedes we do not know enough about, and roll the dice right now.

If we are going to be betting the future of the nuclear waste program, the future of the nuclear energy industry, and the safety of those who are living with the wastes today, we simply have to have better odds. The only way we can improve those odds is by making sure that the decisions that are made in selecting and developing sites for high-level waste disposal are based on sound technical analysis and not Lady Luck.

The DOE has amply shown that it cannot be trusted to make these decisions and the citizens of my state take little comfort from arguments that their lack of confidence in DOE will somehow be compensated for by the oversight of the Nuclear Regulatory Commission or the Environmental Protection Agency. These agencies do not operate in a vacuum. They held the usual set of backroom meetings that invariably take place between and among federal agencies and OMB during rulemakings and without exception the final technical rules of all three agencies were developed in consultation with DOE after DOE had chosen the basic set of sites , Nevada, Washington, and salt. The fact that Hanford would not have qualified under EPA's proposed high-level waste disposal rule and that the rule was changed at the last moment to include Hanford may be circumstantial, but it is a bit too circumstantial for me.

Mr. Chairman, until we start with a new deck and a new dealer and a new game, until we revisit the issue of how we ended up with the sites that have now been proposed for the repositories and MRS, I do not believe that any genuine progress can be made.

I recognize that there is great reluctance to reopening the Nuclear Waste Policy Act, but I believe that some legislative action must be taken to reorganize the DOE high-level waste program. Unless the Congress takes firm action to get this program under control, we will be left with an expensive and potentially catastrophic gamble and little else.

The failure to move ahead with a repository is a function of the failure of the Department of Energy to abide by either the spirit or the letter of the law. In the atmosphere of mistrust and fear which has been created by arbitrary DOE action, I do not believe that any state -- no matter what the financial inducement -- is going to be willing to give up its legal rights of review and appeal. My state has, as you know, tried to work out a relationship with DOE. Our Governor proposed a model for resolving the disputes which have characterized DOE/State dealings; his suggestions were rejected and his gesture of reconciliation was rebuffed.

Given the history surrounding DoE's actions, no state feels -- and no state should feel -- secure enough to "take the money and run." Therefore, I do not believe S. 839 will bring us any closer to achieving a licensed operating nuclear waste disposal system.

Mr. Chairman, I know how hard you and others worked on the original Nuclear Waste Policy Act and on this legislation as well. But I honestly believe that the Committee has to come to grips with the reality which the country faces: our nuclear waste policy is in disarray and the prospects of DoE pulling its act together are dismal.

We can limp along the way we are, with DoE ignoring the law, with states seeking to protect their own interests, with members of Congress expressing disapproval -- and the net result is that the country's interests will not be addressed and this problem will not be solved.

Mr. Chairman, there are no quick fixes. Providing up-front compensation to states won't make the sites any better and it will only further erode public confidence in the way decisions are being made. Let me suggest some of essential elements, as I see them, to reestablishing a sound nuclear waste program.

o The site selection guidelines and EPA and NRC standards must be repromulgated to remove the bias in favor of DOE's existing sites and to remove procedures that favor the lack of data rather than verification of suitability.

o A new screening program to establish a universe of sites for geologic repositories must be established based on the new criteria and not simply on the set of sites DOE already has selected.

o The schedule for selecting sites must be realistic.

o The policy articulated in the NWPA that utilities have the responsibility for spent fuel storage while the Federal Government develops the repository should be continued. Given the fact that utility ratepayers have paid for a program that they are not going to get, I recommend that utilities be reimbursed for their additional spent fuel storage costs out of the nuclear waste fund.

o The stabilization and clean-up of defense high-level waste must be accelerated and plans for storing those high-level wastes at the DOE's materials production sites must be drawn up, because clearly delays in the repository program will mean a longer period of storage for these wastes.

Finally, Mr. Chairman let me address two very contentious issues; the need for a second repository and the continued role of the Department of Energy in managing this program.

Much has been made by my colleagues from states being investigated as possible sites for a second repository of newly discovered "shortage" of nuclear waste. I would like to point out to them that spent fuel from nuclear power plants comprises only a part, though a large part, of the volume of waste that is required to be disposed.

For what it describes as "planning purposes," DOE has identified only the equivalent of 8000 Metric Tonnes (MT) of defense high-level waste for geologic disposal. This amount is likely to be less than half of total amount of defense high-level waste. It does not include, for example, the high-level waste stored in the single shell tanks at Hanford.

Until a first repository sites is licensed and all technical issues resolved, there is no way of knowing whether the first repository site can hold 70,000 MT, or 100,000 or 40,000. This reality does not disappear simply by changing the Nuclear Waste Policy Act limit on the first repository or indefinitely postponing the search for additional sites.

What we have is not a shortage of nuclear waste, but a shortage of nuclear waste repository sites we can have any confidence in and a shortage of leadership and credibility in the program picking those sites. These problems too will not be solved by ceasing to look for repository sites for the so-called second repository, but neither will they be resolved by sending a woefully defective program out to harass more states. The problem is not whether we have one or two repositories , but whether we have any.

As for the issue of DOE's mismanagement of the program, conventional political wisdom tells us that we must muddle through with the Department of Energy and that creating a new agency is time consuming, duplicative, and costly. My point Mr. Chairman is that we can't afford to muddle any longer. Three strikes and your out and the DOE has more than that. The time has come to establish a new waste management agency that is not in DOE's pocket and inventing new rationales for the same old bureaucratic solution.

These are not easy issues. None of us is going to enjoy rebuilding this program. But we need to do it. I look forward to working with you, Mr. Chairman, and your Committee on amending the Nuclear Waste Policy Act. Thank you.

COMMERCE, SCIENCE, AND TRANSPORTATION
JOINT ECONOMIC
JOINT COMMITTEE [illegible]
SELECT COMMITTEE [illegible]

United States Senate
WASHINGTON, DC 20510

June 11, 1987

The Honorable J. Bennett Johnston
Chairman
Senate Committee on Energy & Natural Resources
136 Hart Senate Office Building
Washington, D.C. 20510

Dear Bennett:

We understand that the Committee on Energy and Natural Resources has received a document entitled "Statement of Principles Regarding Implementation of the Nuclear Waste Policy Act," and that this document was presented to the Committee at its May 7, 1987 hearings on the Department of Energy's (DOE) implementation of the civilian radioactive waste program and your bill, S. 839, The Nuclear Waste Policy Act Amendments Act of 1987. While we wholeheartedly agree with some of the enumerated principles, we pointedly question the rationale of the statement that "[t]he arbitrary 70,000 metric ton cap [on the first nuclear waste repository] should be lifted and work towards a second site should be indefinitely suspended." We believe that this statement is not only based on inadequate technological data regarding the future of the nation's need for nuclear waste disposal capacity, but also invites DOE to ignore the express dictates of the Nuclear Waste Policy Act ("Act") itself.

The Act clearly requires DOE to proceed with the selection and recommendation of sites for a second repository. The Department's own General Counsel has recognized this statutory requirement in sections 112 and 114 of the Act, and has acknowledged that "some form of new legislation would be required to implement [any] adjustments to the second repository program . . . ." Moreover, in terms of actual storage capacity, the Act limits the amount of spent nuclear fuel that the Nuclear Regulatory Commission can allow to be emplaced in the first repository, and that limitation is 70,000 metric tons of uranium. Notwithstanding the fact that this 70,000 metric ton limit would not be met for some time, the Act directs DOE to conduct a site selection program for a second repository. In our view, this requirement is binding irrespective of the 70,000 metric ton limit.

Although there are several bills that have been introduced in Congress to cancel the second site, and DOE's position on searching for a second site has not always been consistent, the actual need for a second repository is now a closed question. In fact, as recently as January of this year, the Department re-emphasized to Congress "that even the lowest current projections of spent-fuel generation indicate that the second repository will be needed." [Emphasis supplied]

Thus, the call to lift the cap on the first repository and to suspend "indefinitely" work on a second site should have very little support at DOE and even shallower support in Congress. As you are painfully aware, the assurance of regional equity in the disposal of nuclear waste was essential to the passage of the Act in 1982. Indeed, the 70,000 metric ton limitation on the first repository was an important element in providing such equity. Without it, the critical consensus behind the Act begins to unravel quickly.

Had a similar suggestion arisen when the decision on the location of the first waste site was pending, perhaps it would have been appropriate to debate the question of whether the 70,000 metric ton limit was realistic in terms of spent-fuel forecasts and national goals. But absent a comprehensive review of the process as it now stands, and a possible amendment of the Act, it is hardly prudent to place the issue of first repository storage capacity back on the table. We are willing and eager to work with other affected and interested parties to resolve the serious problems inherent in the Department's implementation of the Act -- problems with which all of us who represent first round candidate states are quite familiar. We cannot accept proposals that would fail to correct those problems while exempting other identified states from the process.

In sum, we urge that the requirements of the Act be implemented consistently until Congress takes specific action to amend it. If site specific work is to proceed on the first repository candidate sites -- which we do not support given the manner of DOE implementation of the Act to date -- statutorily-defined activity should be undertaken on second repository sites in parallel.

Page three
Letter to Chairman Johnston

We, therefore, urge you to disregard any suggestion of removing the cap on the amount of nuclear waste that can be accepted at the first repository. Likewise, it would seem appropriate to defer action on any bill to authorize only a single nuclear waste repository.

Sincerely yours,

Lloyd Bentsen
Lloyd Bentsen

Phil Gm
Phil Gramm

Brock Adams
Brock Adams

Daniel J Evans
Daniel Evans

Harry M Reid
Harry Reid

Chic Hecht
Chic Hecht

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An Immodest Proposal for Dealing with Radioactive Wastes

Alvin M. Weinberg
Distinguished Fellow
Institute for Energy Analysis
Oak Ridge Associated Universities
Oak Ridge, Tennessee, U.S.A.

ABSTRACT

The problem of disposal of nuclear wastes is more political than technical. Essentially all high-level waste accident scenarios involve at worst exposure to levels of radiation that are so low as to be in the range where health effects, if they exist, are miniscule. However, states and localities are refusing to be considered as locations for monitored and retrievable, or permanent geological, repository facilities. Such opposition is not on the basis of safety, but rather on the implications which such a "waste dump" would have for the area. It is proposed that a fund be established, for example $100 million per year, to be paid to a state to compensate for any presumed disadvantages of accepting a nuclear waste storage or disposal facility.

Chernobyl has pushed waste disposal into second place as the aspect of nuclear energy that most concerns the public. Nevertheless if there is to be a second nuclear era, the issue of waste disposal must be resolved.

Unlike reactor accidents, waste disposal has generally been regarded by the technical community as a second-order problem. The nuclear community has never denied that a serious reactor accident could happen; the issue has always been what frequency and what consequences would be acceptable to the public. By contrast, the nuclear community has never identified a plausible accident sequence involving solidified high-level wastes (short of a nuclear attack on a spent fuel storage pool) that could have anywhere near the consequences of an accident like Chernobyl. Essentially all high-level waste accident scenarios involve at worst exposure to levels of radiation that are so low as to be in the range where health effects, if they exist, are miniscule; indeed, they are in a range where there is some evidence for the exposures being beneficial.

I would insist therefore that the problem of high-level waste disposal, unlike the problem of reactor accident, has been greatly overdrawn. The fears expressed by the public in the former case are largely unjustified; the same cannot really be said of the fears evoked by the possibility of a reactor accident.

To allay the public's fear of wastes therefore we shall require a different approach than the one required to allay the fear of reactor accident. In the latter instance, since the fears are based on technical deficiencies of the technology, the approach must involved correction of the deficiencies: ultimately, the design of inherently safe reactors. Since in the case of high-level wastes, the fears are not based on technical deficiencies — i.e., since the existing technologies are good enough to guarantee that, even in the worst accident, no one will receive a high dose of radiation — further technical improvements are rather beside the point. Instead one must devise compensations for these fears. Though these fears may be irrational, they must nevertheless be mitigated if we are ever to dispose of radioactive wastes.

The experience of the Department of Energy in siting the Monitored Retrievable Storage Facility (MRS) illustrates the problem. The MRS is designed as an interim storage and repackaging facility for spent fuel. It is in no sense a "waste dump," but rather a carefully engineered and monitored nuclear "Fort Knox" where thousands of spent fuel assemblies would be stored and repackaged before being sent to the final geologic repository. Sweden has already built and is operating such a facility, the so-called CLAB, at its Oskarshamm reactor site. Though the city of Oak Ridge, which is the tentative site for MRS, has welcomed MRS, the State of Tennesseee has not. Governor Alexander, though conceding that MRS was safe, nevertheless opposed MRS because he believed the area surround MRS would be perceived to be a waste dump, and this would frighten away desirable industry. Governor Alexander was invoking the principle of NIMBY (Not In My Back Yard), not because of safety but because of social perceptions. As of this writing, I do not know how the DOE will respond to the State of Tennessee's disapproval.

The experience with MRS thus far is anything but reassuring for the fate of the permanent geologic repository. The Nuclear Waste Policy Act allows a state that has been chosen as the site of a geologic repository to veto the choice; Congress can then override the veto by simple majority of House and Senate. All three candidate states

OVER

— Washington, Nevada, and Texas, have indicated that they will veto. Should they veto, and Congress override, I believe we have the makings of a Constitutional crisis. Will it be Little Rock played over again, with federal marshals called out to enforce the will of Congress?

Unless the waste problem is resolved, nuclear energy is dead, even without Chernobyl. Technology cannot solve the problem, since as I have argued, even the opponents cannot seriously challenge the safety of the existing technology; other approaches are therefore necessary. My own suggestion is massive compensation to the state, and the locale, for the "perceptual" damage imposed by the waste depository. As a beginning, I would suggest $100 million per year to be paid to the state that accepts MRS or the geologic depository. This amounts to 0.2 mills per kWhour on the nuclear electricity generated in the United States — or a levy of about .25 to .5 percent of the cost of this electricity. This compensation must be offered promptly and generously. The state would then have to decide whether such compensation is enough to mitigate the negative perceptions associated with nuclear wastes. Thus Governor Alexander, who worries about scaring off desirable industry, would have to consider whether this subsidy is enough to overcome the damage caused by perception of harm. He would consider, for example, that with this money the State of Tennessee could establish a venture capital fund which might attract, in a most powerful way, exactly the kind of industry he thinks might be scared off by the MRS. In short, I have come to believe that since the concerns over waste repository siting have little technical basis and therefore are not amenable to resolution by technical means, generous and open compensation must be the key to resolution of the waste disposal dilemma. To those who view such compensation as an unconscionable bribe, I can only say that a bribe becomes a golden opportunity if it is sufficiently generous! And $100 million per year is, I suggest, an offer that, as the Godfather says, cannot be refused, as well as being an amount that can be afforded by the nuclear industry.

For more suggestions on radioactive waste management see: N. Barkenbus, A.M. Weinberg, and M. Alonso, *Bulletin of the Atomic Scientists*, 41, Nov. 1985, pp. 34-37 and Alvin M. Weinberg, Marcelo Alonso, and Jack N. Barkenbus, editors, *The Nuclear Connection: A Reassessment of Nuclear Power and Nuclear Proliferation*, New York: Paragon, 1985.

EXHIBIT

STATEMENT OF WORKING PRINCIPLES AND POLICY POSITIONS
WASTE DEPOSIT IMPACT COMMITTEE

DEAF SMITH COUNTY, TEXAS

TESTIMONY BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
U. S. CONGRESS
APRIL 29, 1987

STATEMENT OF WORKING PRINCIPLES AND POLICY POSITIONS

WASTE DEPOSIT IMPACT COMMITTEE

DEAF SMITH COUNTY, TEXAS

PRINCIPLES

1. The Nuclear Waste Policy Act of 1982 (NWPA) provided the statutory direction under which DOE has initiated a program to permanently store high level nuclear waste and defined its interactions with states and Indian Tribes.

2. A role for local governments and the communities they serve is essentially absent from the NWPA.

3. Of all the interests and parties involved in the implementation of the NWPA, none will be as affected as the local governments and citizens of the potential host sites.

4. Local governments are established to serve their citizens and protect their interests. As is done for the states and Indian tribes, a role must be defined for local governments in the further implementation of the NWPA.

5. Planning for change is a fundamental responsibility for local governments. Sufficient notice and adequate information are critical for these entities to ensure that change occurs in an orderly manner with the minimum necessary social and economic impact.

6. The potential for becoming the location of a permanent repository for the nation's nuclear waste is an uninvited and undesirable burden that starkly contrasts with the agricultural economy and the rural, agrarian nature of the community.

7. The protection of the public's health and safety is the community's highest priority consideration, followed by the protection of the environment. Technical excellence in implementing the provisions of the NWPA is, therefore, of the utmost importance.

8. Substantial effort and resources should be made to ensure that negative impacts of the repository program are addressed and individuals, businesses and communities made whole for any losses incurred.

9. Nothing within this policy framework is written to diminish, explicitly or implicitly, the State of Texas's or any citizen group's activities and positions relative to this program.

10. Regretfully, the DOE's performance in implementing the NWPA has resulted in a significant erosion of public trust. Loss of confidence in its reliability is of such magnitude that it is essential that Congressional intent be as explicitly stated as possible through appropriate instruments of law.

POLICY POSITIONS

1. Units of general local government and special taxing districts providing traditional services[1] should be explicitly identified as eligible for financial assistance grants.

2. Financial assistance for impact mitigation (FAIM) should be made available to local governments/special districts and any citizen or business incurring damage or injury for site characterization and repository construction activities.

3. A FAIM Plan to address the needs of local affected jurisdictions should be designed for site characterization and repository activities.

4. Eligibility for Payments Equal to Taxes (PETT) should be extended to special districts providing traditional services.

   4.1 The site characterization activities should generate PETT on the full value of the completed facilities upon authorization.

   4.2 Full value should include intangible investments of design, engineering and analytical work necessary for facility construction.

   4.3 The site, for PETT purposes, should be the full nine square miles as defined by the Environmental Assessment for the Deaf Smith County site.

5. A negotiated written agreement should be achieved between DOE and the situs local government or consortium of affected governments, that specifies procedures for conferring, consulting, advising and overseeing program implementation relative to issues of public health and safety, environmental and socioeconomic impacts of both site characterization and repository development. Problems that develop throughout the project should be resolved through good faith negotiations or through mediation or arbitration should impasse be reached.

6. Site characterization and repository oversight is a local situs government, as well as State, responsibility. Duplication of effort between the two should be kept at an absolute

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[1] For brevity this key phrase will be reduced to "local governments/special districts." Examples of traditional services are education, public safety and public health.

minimum where feasible. This should be accomplished through consultation and, if necessary, negotiation with the State.

7. Procedures should be developed whereby the Committee, or its appointed body, could bring about a suspension of characterization or repository operations if certain procedures, jointly pre-established with DOE, are not followed in order to protect the public health and safety; and to protect the environment, particularly the region's aquifer.

8. The Deaf Smith County, Texas site is the only one requiring land acquisition from private owners. As such, special consideration should be given to this element of the project.

    8.1 Any purchases or leases negotiated should begin with a baseline value, substantially greater than market, that recognizes the rarity and uniqueness of the property and its salt mineral deposit as determined by the DOE selection process.

    8.2 Current owners or their heirs should be given a first right to repurchase the fully reclaimed land at market value should the repository be located elsewhere.

    8.3 Any other potential federal use of the characterization site should be prohibited.

    8.4 Farm owners and operators currently using land to be leased should be made whole for lost or foregone income or property damage incurred by characterization.

9. Property owners in the area of the site should be made whole for loss of land value due to proximity to a potential nuclear waste storage facility.

10. The Nuclear Regulatory Commission's licensing process for the establishment of a permanent Nuclear Waste Repository includes receiving public comment on the proposed facility. Documentation is estimated to reach levels in excess of a billion pages. Meaningful input from citizen groups during licensing procedures will require resources for them to monitor the program over time. Assistance for the effort should be made available through the nuclear waste storage program.

THALIA M. DONDERO
Vice-Chairman

Board of County Commissioners
CLARK COUNTY BRIDGER BUILDING
225 BRIDGER AVENUE
LAS VEGAS, NEVADA 89155
(702) 455-3500

May 12, 1987

Mary Louise Wagner
Professional Staff
Committee on Energy and Natural Resources
U.S. Senate
312 Hart Senate Building
Washington, D.C. 20510

Dear Ms. Wagner:

I appreciate the opportunity of conveying the concerns of Clark County relative to Senate Bill 839 at the May 8, 1987, hearing of the Committee on Energy and Natural Resources. We feel very strongly about the points entered into the record in our written testimony. A point of particular concern is Sec. 402(b)(3) which requires a state or affected Indian tribe to waive its rights to seek judicial review. This, we feel, is totally unacceptable.

We have several additional questions and concerns which we would like considered and entered into the record.

1. Has the Benefits Schedule been tested to compare the funds expended with the estimated cost of completing the study under the current provisions of the Nuclear Waste Policy Act? Is this acceptable to the utilities and rate payers who are paying the bill?

2. The compensation discussed in the bill is funding. Has the Committee considered compensation in the form of programs, facilities, etc.? A negative facility such as a repository could be ameliorated in part by a project that would enhance the long-term economy of an area.

I continue to be concerned, however, about the terms of the proposed bill. As an elected local official in an area that could be dramatically affected by a proposed repository, the Committee should carefully deliberate the implications of S.B. 839. The health and safety of the public should not become a pawn to an attempt to quickly expedite the disposal of nuclear waste.

Sincerely,

Thalia M. Dondero

THALIA M. DONDERO
Vice-Chairman
Board of County Commissioners

STATE OF TEXAS
OFFICE OF THE GOVERNOR
AUSTIN, TEXAS 78711

WILLIAM P. CLEMENTS, JR
GOVERNOR

April 16, 1987

Mr. Ben C. Rusche, Director
Office of Civilian Radioactive Waste Management
United States Department of Energy
1000 Independence Avenue
Washington, D.C. 20585

RE: Funding for Mitigation of Anticipated and Actual Impacts of Site Characterization Activities

Dear Mr. Rusche:

I was disappointed to hear, today, of the presentation made by representatives of your office last evening to the Board of Directors of the Vega Independent School District regarding the inability of the DOE to provide funds from the Nuclear Waste Fund for meeting anticipated impacts on communities as a result of site characterization activities. The elected officials of the City of Vega and the Vega Independent School District first raised the issue of potential impacts to their community in their official presentations for the record of the Public Hearing on the Draft Environmental Assessment for the Deaf Smith County site in January 1985. In May 1985, you visited the community of Vega and assured the same, and additional elected officials and citizens that funds would be made available to offset negative impacts to their communities resulting from the OCRWM program, should the site be selected as a candidate repository site, as it finally was on May 28, 1986. Before and since that date the President of the Vega ISD Board and you have exchanged letters on this matter and the urgency of its resolution.

It was further indicated in the April 14, 1987 meeting with the Vega ISD Board of Directors that there is no availability of funds, according to the Nuclear Waste Policy Act, for the mitigation of adverse impacts of site characterization in any affected community. This determination apparently applies to all forthcoming or anticipated negative impacts in Hereford, where it has been announced that a DOE-SRPO office and contractor office is expected to be acquired and staffed with approximately 400 personnel by September 1987. Your representative also indicated that it had been determined by the OCRWM that the only local governmental jurisdiction eligible for a grant of payments equal to taxes is the County of Deaf Smith.

I have previously written to you regarding our concern over the DOE's plans to move a significant number of workers into Hereford and the site area prior to carrying out any analysis of the potential impacts of the immigration of a large, unanticipated population. The State of Texas is now about to initiate a rapid and necessarily noncomprehensive analysis of potential early impacts of such a population influx. The necessary speed and incompleteness of our initial planned analysis is a result of the fact that the DOE has indicated its relocation schedule is firm over a very near-term and short period of time, and there are certain baseline data sets that we feel must, for technical integrity, be collected prior to any actual population changes resulting from the influx.

It is, therefore, my request, and that of Governor Clements, that you postpone the planned relocation of the SRPO and contractor offices into Hereford, or any other community in Texas, until the matter of how the anticipated and actual impacts of OCRWM site characterization activities will be addressed and financially compensated when necessary. This action is necessary and in accord with traditional governmental practice and fairness, given the conclusion of your office that the Waste Fund cannot serve as the source of funding for mitigation of anticipated or actually occurring negative impacts on community services and governmental budgets, even if the results of our work indicate such a condition will or does exist. Our request in fully consistent with your repeated commitment to Mr. Wayne Richardson, President, Vega ISD, assuring him that you will work to try to avoid adverse impacts before they occur and address any adverse impacts that may occur.

It seems quite clear that the Congress, in enacting the Nuclear Waste Policy Act of 1982, did not intend that the financial costs of the OCRWM program be laid upon local taxpayers in affected communities. If, as your staff personnel have suggested, the only effective resolution to this issue of site characterization impact mitigation may be a congressionally enacted specially designated appropriation, the planned population influx that is under the control of the OCRWM should be postponed until such time as that Congressional action is taken and in effect. If such a special funding approach is needed we would assume that it would have the full and effective support of the DOE.

I appreciate your concern over the seriousness of the situation that could arise as a result of the DOE's activities in Texas in the near future and I, and Governor Clements await your early response to this request for suspension of personnel relocation into Texas communities pending the effective resolution of this problem.

Sincerely,

Dillard S. Hammett
Energy Director

DSH/sf:dp

cc: U. S. Senator Lloyd Bentsen
U. S. Representative Beau Boulter
U. S. Representative Larry Combest
Texas Senator Bill Sarpalius

STATE OF TEXAS
OFFICE OF THE GOVERNOR
AUSTIN. TEXAS 78711

WILLIAM P. CLEMENTS, JR.
GOVERNOR

April 2, 1987

The Honorable Lloyd Bentsen
United States Senator
SH-703 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Bentsen:

I am writing to let you know of my concern over the progress and implementation of the Nuclear Waste Policy Act of 1982 and to inform you of the approach Texas is advocating regarding this matter. I would appreciate your consideration and support in this effort to resolve the very difficult problem at hand.

As you are aware, on May 28, 1986 President Reagan accepted the recommendation of the Secretary of Energy, John Herrington, that sites in Deaf Smith County, Texas, Yucca Mountain, Nevada, and on the Hanford Reservation, Washington, be named Candidate Sites for a deep geologic high-level nuclear waste repository. At the same time, contrary to the requirements of the Act, Secretary Herrington announced the indefinite postponement of site specific work leading to the naming of three candidate sites for a second repository.

During my previous term as Governor of Texas, I strongly advocated Texas' participation in the drafting of the Nuclear Waste Policy Act, and was gratified with the Congress' recognition that technical excellence and credibility is an essential factor in fostering beneficial public acceptance as we, together in the nation, seek a responsible and safe means of isolating these wastes from the accessible environment for the necessary thousands of years. Now, I feel I must report to you my disappointment in the conduct of this program as public confidence continues to be eroded through a site selection process that seems more centered on political expedience than technical excellence. In addition, the repository program is so burdened with controversy and litigation that, in my judgement, valuable time and money are being wasted while the failures of the site selection program become increasingly evident to observers and the affected public.

Last year the Congress expressed its concern with the implementation of the program by significantly cutting funding for FY 87 site specific program activities, including the start of exploratory shafts at the three candidate sites. The matter of program funding for FY 88 is now before the Congress, with a DOE budget request that is not only out of step with the President's budget proposal to Congress, but also does not conform to the requirements of the Nuclear Waste Policy Act. At the same time, the DOE's current budget request does not reflect a major management change that is proposed to be implemented during FY 88, in the form of a headquarters-level program integration contractor, known as a Systems Engineering and Development Contractor (SE&D). This shift to more central management control could have obvious benefits if it is properly implemented prior to detailed site characterization efforts at the three candidate sites. However, the DOE plans to implement the SE&D contractor approach on a phase-in basis while proceeding at a rapid pace into site characterization activities during the next two years. This introduction of the SE&D contractor into an established and ongoing planning and testing program is contrary to prudent engineering and research management procedure, and will result in a reduced ability to gain significant benefits from such an integrated management approach.

Given the continuing severe crisis in confidence in the repository site selection process that has resulted from the current three candidate site designations and deferral of the search for a second repository site, I recommend the following for your consideration during the current appropriations cycle: The entire Nuclear Waste Policy Act program should be reviewed by a congressionally appointed body over the next two years, and then appropriate action taken by the Congress to get the nation on a technically sound and reasonable track toward meeting our needs for safe and acceptable high-level nuclear waste management and disposal. To accomplish this objective, I suggest a congressional appropriation strategy that prohibits the DOE from advancing or carrying out any site specific characterization activities, including land acquisition. Meanwhile, during the two year period, a congressionally appointed commission, with sufficient technical staff support, should review the issue of high-level nuclear waste management and disposal and prepare a detailed report of recommendations to the Congress for its consideration. During the interim, the DOE program research and development activities, planning for deep geologic disposal, and implementation of an improved management structure should be continued in order to enhance the technical quality of the products and minimize delay when the Congress determines the appropriate directions for re-starting a waste management and site selection program.

I believe this proposed strategy to be an efficient and conservative approach that is well justified prior to risking the commitment of a number of years of site characterization work and the accompanying expenditure of nearly $1 billion per candidate site for site specific studies. Should such an approach be adopted, incorporating an effective moratorium on site-specific activities, plans, and investigations, I am prepared to pledge the cooperation of my office, and the considerable expertise of the Texas Nuclear Waste Programs Office in assisting the deliberations of a review commission.

I am greatly concerned about the viability of the nuclear waste repository program, and I hope my recommendations in this letter are viewed in the intended constructive light. If you have comments on this approach, or wish to have further discussion on the matter, please do not hesitate to contact me or my Nuclear Waste Programs Office.

Sincerely,

W.P. Clements Jr.

William P. Clements, Jr.
Governor of Texas

WPC/safp
enclosure

cc: Members, Texas Congressional Delegation

OFFICE OF THE GOVERNOR

FOR IMMEDIATE RELEASE
FEBRUARY 12, 1987

CONTACT: REGGIE BASHUR
O - 512/463-1826
H - 512/499-8387

GOVERNOR EXPRESSES CONCERN ABOUT NUCLEAR WASTE SITE IN PANHANDLE, ANNOUNCES PUBLIC HEARING SCHEDULE

AUSTIN -- Governor Bill Clements announced today that he will send representatives to the Texas Panhandle later this month to attend U.S. Department of Energy public meetings on the federal government's search for the nation's first high-level nuclear waste repository.

The DOE meetings, Clements said, will be held in Hereford, Amarillo and Vega on February 24, 25 and 26. At the meetings, federal representatives will describe the projected activities, studies and land access plans associated with the review of the possible siting of the repository in the Texas Panhandle.

A major item expected to be discussed at the meetings will be the DOE's plan to move 700 families into the region during 1987. The employees will perform a major "site characterization" approved last year by the President.

The DOE's plans to move workers into the Panhandle does not imply that the nuclear waste repository will be built near Vega, Clements stressed.

Clements, since his inauguration last month, has criticized the government's site selection process, complaining the DOE has failed throughout the process to adequately consider the potential impact of study activities on the agricultural economy and critical groundwater resources in and around the proposed Deaf Smith County site.

Clements gave a statement to the U.S. Senate Committee on Energy and Natural Resources in early February. The statement outlined some of his critical concerns regarding a variety of technical issues at the proposed Deaf Smith County site.

This site, along with sites in Nevada and Washington State, is currently being reviewed by the DOE as locations for the repository.

"The DOE," Clements said, "has failed to provide sound and credible substantiation for the selection of Texas, Nevada and Washington as candidate sites. That finding has been expressed in several lawsuits that Texas has brought against the DOE."

Clements also criticized the agency for not consulting with Texas, as an affected state, in a manner set out by Congress and the Nuclear Waste Policy Act.

"The department has failed to adequately consider the potential impact of the program activities on the agricultural economy and critical groundwater resources in and around the Deaf Smith County site," said Clements.

"Given the extent to which Deaf Smith County farmers, ranchers and residents rely on the Ogallala and Santa Rosa aquifers for their livelihood, we believe the Department of Energy should pay more attention to what is obviously a critical and limited natural resource."

The start-up date for the repository has been delayed until 2003. Despite that, Clements said the federal agency "continues to cloak the entire program with a veil of optimism."

Added Clements: "The greater likelihood is that additional uncertainties will emerge as investigations progress, which will only cast a longer shadow over the department's ability to select a site that can perform in the required manner."

Attending the Panhandle meetings on behalf of the governor will be Dillard Hammett, the governor's energy advisor, and Steve Frishman of the State High-Level Nuclear Waste Office.

--30--

DEPARTMENT
OF AGRICULTURE
P. O. BOX 12847
AUSTIN, TEXAS 78711 · (512) 463-7446
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SENATE COMMITTEE ON
[illegible]
MAY 28 1987
WASHINGTON DC 20510

May 20, 1987

Hon. J. Bennett Johnston
U.S. Senate
Washington, D.C. 20510

Dear Senator Johnston:

I understand that in the recent hearings on the high-level nuclear waste issue, mention was made of the heavy influence of agriculture in Deaf Smith County, Texas. I am enclosing some material that documents the significance of agriculture to that area's economy. We would be glad to provide more information if it would be helpful.

Sincerely,

Gary Keith

Gary Keith, Ph.D.
Director,
Nuclear Waste Studies Project

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AGRICULTURE BRIEF:

THE TEXAS PANHANDLE AND THE PROPOSED HIGH-LEVEL NUCLEAR WASTE REPOSITORY

FEBRUARY, 1987

NUCLEAR WASTE STUDIES PROJECT,
TEXAS DEPARTMENT OF AGRICULTURE

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SUMMARY

The Department of Energy is proposing to place the nation's nuclear waste repository in Deaf Smith County. DOE is required to allow the state, local governments, and citizens to participate in the decision-making process. In doing so, we need to examine the whole area that could be affected by a nuclear waste dump. That includes contamination from radiation and it includes effects from perceptions of contamination, such as depressed sales of agricultural products. The Texas Department of Agriculture has identified a minimum of 50 Panhandle counties that fit that criteria.

This 50-county Panhandle area is the state's leading area for prime farmland and for irrigated farmland. It also has a sizeable farm population. In 1984 TDA, in cooperation with the Governor's Office, surveyed area farmers and found that they believe that a nuclear waste dump would make it harder to sell their crops, that it has already depressed area land values, and that they will have to or are already changing their plans for the future.

Texas is second in the nation in agricultural production, and the Panhandle is a leading crop and livestock producer, not just in the state, but nationally. Deaf Smith County, for instance, ranks 1st in the state in cash receipts for crops and livestock and 12th in the nation. It ranks 2nd in the nation in cash receipts for cattle. The Panhandle's $2.9 billion in agricultural cash receipts is 31 percent of the state's total. That $2.9 billion multiplies to $9 billion as it ripples through the regional economy.

The Panhandle's primary products include wheat, corn, sorghum, cotton, seed, sugarbeets, vegetables, and hay. It is also the largest cattle center of the state, with 3.4 million cattle--one-fourth of the state's total. The Panhandle produces 51% of the state's wheat, 54% of its cotton, 50% of its corn, and 35% of its grain sorghum--all on 69% of the state's irrigated cropland.

And much of this agricultural bounty is stored in or processed in the area. Panhandle food processing includes meat packing, corn chips, potato chips, sugar, high-fructose corn syrup, natural foods, and wines. Nearly half of the state's grain storage capacity is in the area.

While it is difficult to identify all the agriculture-related employment in the Panhandle, a minimum of 80,000 Panhandle residents work in agriculture or agriculture-related businesses, and the actual figure would be higher than that.

I. PEOPLE, LAND, WATER--AND NUCLEAR WASTE

The Texas Department of Agriculture is concerned about the possible effects of a high-level nuclear waste repository on agriculture and agribusiness throughout the Panhandle--both from the perspective of possible contamination of land, water, food, and humans, and from the perspective of consumer worries hurting the sales of the area products. The Department of Energy's (DOE) contractors, in discussing studies of possible effects of a respository on food processing plants, targetted "food production facilities out to as far as 50 miles...." from the proposed site. And in the Environmental Assessment of Deaf Smith County, DOE used a 50-mile standard in disucssing land-use effects. We believe that the 50-mile standard is inadequate, for three reasons.

First, the Ogallala Aquifer extends in Texas 350 miles from the northeast corner of the Panhandle all the way to the area south of Lubbock, and if the aquifer is contaminated, it is not certain that the contamination could be contained to the Deaf Smith area (or, for that matter, to the Texas part of the aquifer).

Second, consumer concerns would be fueled by vague knowledge that the repository is over the Ogallala and in the Texas Panhandle, and all Panhandle or Ogallala products could be affected by consumer concerns, whether there is actual contamination or not.

And third, we do not know how far contamination would be carried if a transportation, repackaging, or storage accident released radiation into the air, rivers, and/or aquifer. Some of the state's major rivers, for instance, have their headwaters in the Panhandle and might be subject to contamination. We do know that after the Chernobyl accident, Russian officials first evacuated an 18-mile area around the accident site, later had to expand the evacuation area, and did not say how far out the new evacuation area was. And we know that wind carried the radiation over hundreds of miles at a strong enough level to contaminate crops and livestock throughout Europe.

We believe, then, that distance from the site and proximity to the aquifer must be used in determining an impact area. All counties that overlie the Ogallala Aquifer should be included, and all counties within at least 150 miles of the site should be included. Considering economic, health, and environmental factors, these are reasonable (and perhaps too conservative) standards. There are 47 Panhandle counties that overlie the Ogallala Aquifer and that are included in the impact area. In addition, 3 Panhandle counties (Childress, Cottle, and Hall) that are 90 to 150 miles from the site but do not overlie the aquifer are included, for a total of 50 counties in what will be called the Panhandle impact area. (Some areas in Oklahoma, New Mexico, Kansas, and Colorado would also be included in this area, but only Texas-specific data is included in this Brief.)

Information in this Brief is taken primarily from the annual agricultural statistics published jointly by the U.S. Department of Agriculture and the Texas Department of Agriculture (figures cited are the most recently published ones, usually 1985) and from the Census Bureau's U.S. Census of Agriculture, 1982. Other sources are noted where appropriate.

Farmland Concerns

If the Deaf Smith County site is chosen for the nation's first high-level nuclear waste repository, 5,760 acres of privately owned land would be condemned for the site. The site is used exclusively for farms and farm residences. In addition, hundreds to thousands of acres could be taken for rail and road access to the site.

Both the site and the general Panhandle area are dominated by prime farmland. Table 1 shows the number of prime acres in each county in the Panhandle, prime acreage as a percent of total county acreage, and which counties rank high in the state in those two categories. Clearly, the Panhandle has some of the best farmland in the state, much of it in and close to the proposed site. Seven of the top ten counties in prime acreage are in the Panhandle. Figure 1 is a map depicting the state's counties and their prime farmland.

Water Concerns

Texas ranks as the third highest state in terms of irrigated acreage, and 12 of the nation's top 100 irrigated counties are in the Panhandle. Texas has about 6.7 million irrigated acres. Of these, about 4.7 million, or 69 percent, are in the 50 Panhandle counties. This irrigation is almost exclusively from the Ogallala, with some irrigation from the Santa Rosa and other aquifers. Only 23 Texas counties have more than 100,000 irrigated acres, and 20 of these are in the affected region. Table 1 also shows the county totals for irrigated acreage, and the rank within the state.

There are more than 70,000 wells in the Ogallala in Texas, out of the total of 170,000 wells in the entire eight-state Ogallala. The proposed site has about 30 irrigation wells on it, including the principal irrigation well for the Richardson Seed Farm. Wayne Richardson estimates that without the well, he would have only about half the production capability that the farm now has.

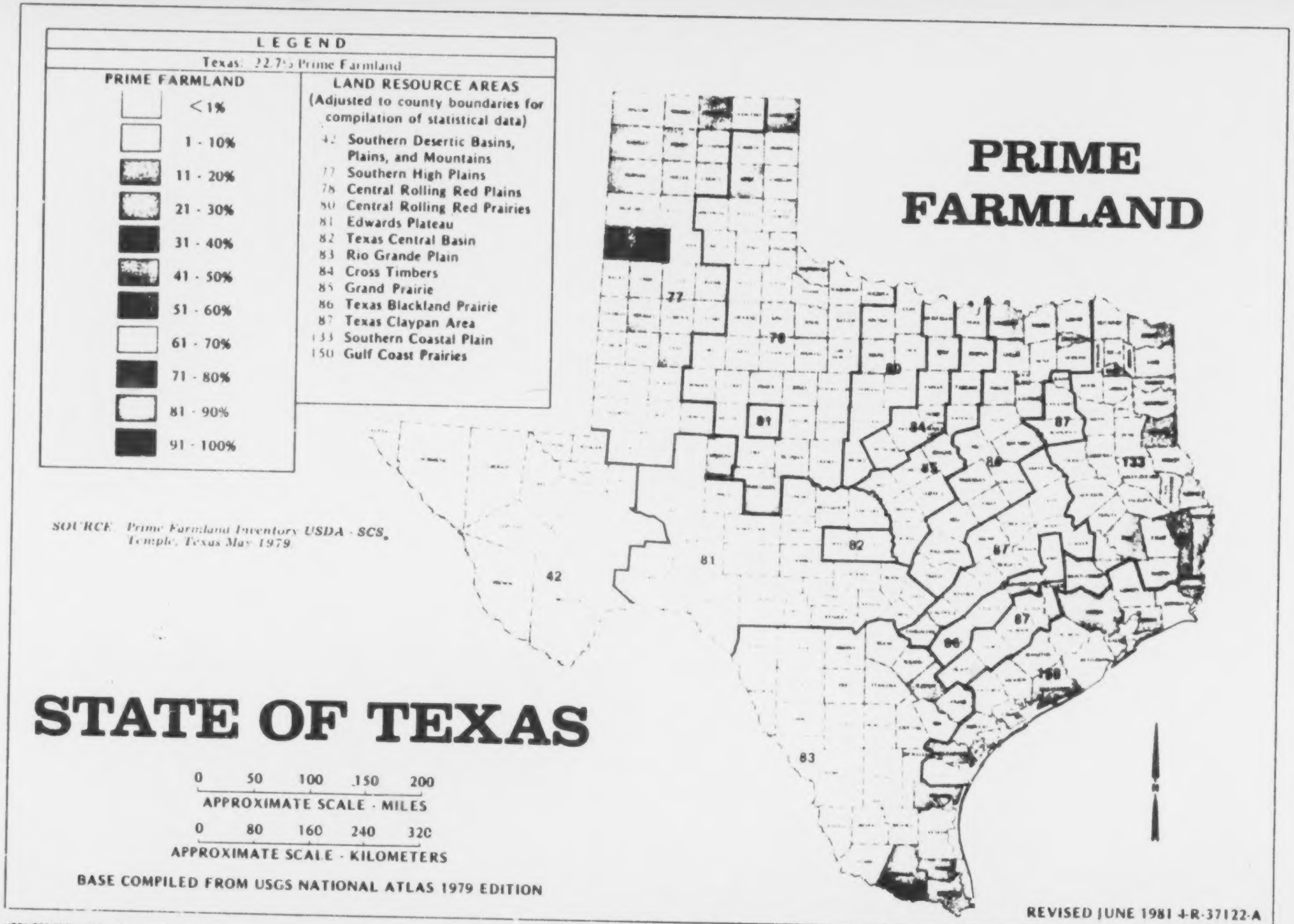
The water level in the aquifer has dropped for years as these (mostly irrigation) wells have pumped from it regularly. According to the High Plains Underground Water Conservation District, the average depletion rate over the last 25 years has been 1.3 million acre feet per year. However, the depletion rate has slowed considerably in the 1980's. The 1984 depletion rate was down to 601,509 acre feet.

And for the first time in the 35-year history of the High Plains Water District, the depth-to-water level measurements in the Ogallala observation wells showed no average change in 1985. Volume of water in storage in January, 1986, was the same as January, 1985. The 5-year average 1981-1986 has shown a dramatic decrease in the rate of decline in the Aquifer—an average decline of 0.46 feet per year, whereas the decline from 1976 to 1981 was an average of 1.48 feet per year. A combination of non-use, increased energy costs, and good rains has allowed the aquifer to replenish itself. Measurements in several counties actually showed a rise in the water table in 1985 (Armstrong, Cochran, Floyd, Hale, Hockley, Lubbock, Lynn).

TABLE 1

PRIME FARMLAND; IRRIGATED ACREAGE

County	Prime Acres (and Rank in State)	Prime Acreage as % of Total Acres (and Rank in State)	Irrigated Acres (and Rank in State)
Andrews	0	0	16,000
Armstrong	259,880	45%	12,000
Bailey	25,991	5%	135,000 (18)
Borden	158,381	27%	1,000
Briscoe	231,810	42%	50,000
Carson	338,560 (23)	59% (16)	95,000 (23)
Castro	538,820 (4)	96% (1)	270,000 (5)
Childress	195,154	44%	10,000
Cochran	5,859	1%	100,000 (21)
Collingsworth	102,410	18%	13,000
Cottle	144,314	25%	2,000
Crosby	298,810	51%	130,000 (19)
Dallam	122,330	13%	210,000 (10)
Dawson	53,575	9%	34,000
Deaf Smith	649,917 (1)	67%	205,000 (11)
Dickens	122,868	21%	7,000
Donley	60,170	10%	6,000
Ector	0	0	1,000
Floyd	504,340 (6)	79% (4)	220,000 (8)
Gaines	0	0	250,000 (6)
Garza	131,693	23%	4,000
Glasscock	0	0	40,000
Gray	199,320	33%	38,000
Hale	524,149 (5)	84% (2)	390,000 (1)
Hall	143,697	25%	18,000
Hansford	345,342 (20)	60% (15)	205,000 (11)
Hartley	124,000	13%	100,000 (21)
Hemphill	58,188	10%	4,000
Hockley	134,040	23%	145,000 (16)
Howard	283,337	49%	3,000
Hutchinson	127,670	23%	40,000
Lamb	141,938	22%	275,000 (4)
Lipscomb	156,574	26%	24,000
Lubbock	314,914	55% (21)	200,000 (13)
Lynn	235,600	40%	50,000
Martin	0	0	12,000
Midland	0	0	15,000
Moore	300,885	52%	215,000 (9)
Motley	116,692	18%	6,000
Ochiltree	361,004 (17)	62% (13)	90,000 (24)
Oldham	162,770	17%	25,000
Parmer	423,780 (8)	77% (5)	300,000 (3)
Potter	168,093	29%	26,000
Randall	402,510 (9)	69% (8)	45,000
Roberts	79,318	14%	6,000
Sherman	261,370	45%	155,000 (15)
Swisher	469,561 (7)	82% (3)	225,000 (7)
Terry	7,310	1%	140,000 (17)
Wheeler	57,319	10%	8,000
Yoakum	0	0	85,000 (25)
Area Total	9,544,263	31%	4,656,000
State Total	38,045,840	23%	6,700,000


PRIME FARMLAND
STATE OF TEXAS
LEGEND
Texas: 22.7% Prime Farmland
PRIME FARMLAND
<1%
1 - 10%
11 - 20%
21 - 30%
31 - 40%
41 - 50%
51 - 60%
61 - 70%
71 - 80%
81 - 90%
91 - 100%
LAND RESOURCE AREAS
(Adjusted to county boundaries for compilation of statistical data)
42 Southern Desertic Basins, Plains, and Mountains
77 Southern High Plains
78 Central Rolling Red Plains
80 Central Rolling Red Prairies
81 Edwards Plateau
82 Texas Central Basin
83 Rio Grande Plain
84 Cross Timbers
85 Grand Prairie
86 Texas Blackland Prairie
87 Texas Claypan Area
133 Southern Coastal Plain
150 Gulf Coast Prairies
77
78
80
81
82
83
84
86
87
133
150
42
0 50 100 150 200
APPROXIMATE SCALE - MILES
0 80 160 240 320
APPROXIMATE SCALE - KILOMETERS

SOURCE: *Prime Farmland Inventory USDA - SCS, Temple, Texas May 1979*

BASE COMPILED FROM USGS NATIONAL ATLAS 1979 EDITION

REVISED JUNE 1981 4-R-37122-A

USDA SCS FORT WORTH TEXAS 1981

REVISED JUNE 1981 BASE 4-R-33577

Farm Population

The 50-county Panhandle region, in conjunction with being one of the most productive regions of the state, also has a sizeable farm population. The 1982 U.S. Census of Agriculture found 19,449 farms in the area. Table 2 shows the number of farms in each county, from this census data. Even with farm failures since 1982, the number of farms would now be about 15,000 to 16,000. And since the typical farm family has about 3 members, the total farm population of the area would be about 45,000 to 50,000.

We know that the area farm families are deeply concerned about the possibility of a nuclear waste repository being located in the Panhandle. In 1984 TDA and the Governor's Office surveyed 600 farmers in the area to see what they thought of the proposed repository and its effects on them. Four of five farmers think the dump will make it harder to sell their crops; 84% say their land values will go down. Thirteen percent surveyed had already changed their plans because of the repository. Nearly half of farmers said they expect to have to make changes; more than 100 farm families indicate that they will move. Seventy-three percent of farm operators don't trust DOE to build a safe repository; sixty-three percent think DOE could ruin their land and water during the test drilling phase. When the concerns of the area farmers are considered along with the availability and quality of farmland and water in the area and the size of the farm population, those concerns can quickly be seen to be major ones. (See "Panhandle Residents' Views of High-level Nuclear Waste Storage," Texas Department of Agriculture, May, 1985).

TABLE 2
FARM POPULATION, 1982 U.S. CENSUS OF AGRICULTURE

County	Number of Farms
Andrews	128
Armstrong	240
Bailey	442
Borden	135
Briscoe	251
Carson	352
Castro	483
Childress	323
Cochran	279
Collingsworth	388
Cottle	235
Crosby	430
Dallam	378
Dawson	581
Deaf Smith	655
Dickens	330
Donley	365
Ector	214
Floyd	590
Gaines	619
Garza	240
Glasscock	200
Gray	350
Hale	832
Hall	341
Hansford	315
Hartley	208
Hemphill	221
Hockley	633
Howard	348
Hutchinson	157
Lamb	823
Lipscomb	294
Lubbock	1029
Lynn	556
Martin	390
Midland	335
Moore	270
Mctley	233
Ochiltree	394
Oldham	150
Parmer	661
Potter	178
Randall	575
Roberts	103
Sherman	279
Swisher	551
Terry	532
Wheeler	507
Yoakum	276
TOTAL	19,449

II. AGRICULTURAL PRODUCTION

Texas ranks second in the nation in agricultural production, and several Texas counties rank among the most productive in the nation. Table 3 lists the national rankings for the Panhandle counties that are in the top 100 counties in the nation, for crops that the Panhandle counties are ranked in.

Cash Receipts

Texas is consistently second or third in the nation in agricultural cash receipts--alternating with Iowa for second behind first-place California-- and it is the Panhandle that produces more cash receipts for crops and livestock than any other region of the state. In the 1982 Census of Agriculture, 10 of the nation's top 100 counties in cash receipts were Texas Panhandle counties. Deaf Smith County ranked 12th. While not every commodity is grown in the area, most of the state's major agricultural products are found in the Panhandle.

Table 4 shows the cash 1985 receipts for crops and livestock for the 50 counties, along with the rank within the state's 254 counties for those that rank high. Fourteen of the top 25 counties in the state are in the Panhandle region, including 6 of the top 10. The Panhandle accounts for 39 percent of the state's cash receipts for crops, totalling $1.5 billion. And it accounts for 25 percent of the livestock cash receipts, totalling $1.4 billion. Its $2.9 billion in total crop and livestock cash receipts is 31 percent of the state's total 1985 production of $9.3 billion. When an agricultural sector multiplier of 3.1 is applied to the $2.9 billion in cash receipts produced in the area, the total economic impact of agricutlure in the area becomes $8.9 billion.

Crops

The Panhandle is known primarily for its grains, with corn and sorghum for feed grain and food-grade wheat and corn as the dominant grain products. It is also the state's leading cotton region, and is second to the Rio Grande Valley in vegetable production.

Table 5 details the acreage devoted to crops in the Panhandle. There are 19 counties in the state that had more than 300,000 acres planted in crops in 1985. Seventeen of the nineteen were the Panhandle impact area, including 9 of the top 10. Deaf Smith ranked 8th in acreage devoted to crops. (The two outside the Panhandle region are Hidalgo and Nueces.)

Table 6 details the production of major crops by county, and Table 7 depicts the top ten rankings of Panhandle counties, by crops.

Wheat

The Panhandle region produces 51 percent of the state's wheat. Fourteen of the leading 25 wheat counties in the state are in the Panhandle region, and 9 of the top 10. Deaf Smith County ranks fourth in the state.

TABLE 3
TOP 100 NATIONAL RANKINGS OF PANHANDLE COUNTIES
1982 U.S. CENSUS OF AGRICULTURE

County	Cash Receipts Livestock	Cash Receipts Crops	Cash Receipts Total	Cash Receipts for Cattle & Calves only	Cattle & Calves Inventory	Fed Cattle	Irrigated Land	Grain & Seed Sorghum	Cotton
Andrews									
Armstrong									
Bailey								49	
Borden									
Briscoe									
Carson								42	
Castro	27		32	15	31	16	28		96
Childress									91
Cochran								17	89
Collingsworth									
Cottle									
Crosby									48
Dallam	66		95	31	53	47	76	36	
Dawson									10
Deaf Smith	3		12	2	2	2	50	13	
Dickens									
Donley									
Ector									
Floyd							39	82	76
Gaines							45	94	8
Garza									
Glasscock									72
Gray						48			
Hale		75		96		73	11	86	27
Hall									67
Hansford	29		54	12	30	15	87	16	
Hartley	57			27	47	32		85	
Hemphill									
Hockley								10	52
Howard									49
Hutchinson									
Lamb	53		63	25		24	25	69	37
Lipscomb									
Lubbock						55	55	47	28
Lynn								71	33
Martin									
Midland									
Moore	40		73	21	45	19	92	22	
Motley									
Ochiltree								54	
Oldham									
Parmer	16	100	25	6	21	6	20	50	
Potter									
Randall	37		84	19	55	21			
Roberts									
Sherman	46		86	24	77	25		20	
Swisher	32		51	16	48	14	53	89	78
Terry								77	14
Wheeler									
Yoakum									44
TEXAS	1		2	1					2

TABLE 4
1985 DATA
AGRICULTURAL CASH RECEIPTS

County	Crop Cash Receipts	Livestock Cash Receipts	Total Cash Receipts	Rank in State
Andrews	4,802,000	4,452,000	9,254,000	
Armstrong	10,222,000	7,104,000	17,326,000	
Bailey	44,431,000	35,587,000	80,018,000	23
Borden	4,638,000	3,811,000	8,449,000	
Briscoe	14,021,000	4,713,000	18,734,000	
Carson	22,237,000	12,495,000	34,732,000	
Castro	85,983,000	71,438,000	157,421,000	5
Childress	9,033,000	3,606,000	12,639,000	
Cochran	20,086,000	14,365,000	34,451,000	
Collingsworth	11,556,000	6,163,000	17,719,000	
Cottle	7,745,000	6,673,000	14,418,000	
Crosby	44,555,000	3,609,000	48,164,000	
Dallam	53,242,000	42,484,000	95,726,000	17
Dawson	47,842,000	798,000	48,640,000	
Deaf Smith	58,995,000	258,742,000	317,737,000	1
Dickens	6,875,000	7,069,000	13,944,000	
Donley	5,453,000	13,607,000	19,060,000	
Ector	68,000	4,626,000	4,694,000	
Floyd	71,281,000	17,235,000	88,516,000	21
Gaines	89,578,000	5,315,000	94,893,000	19
Garza	6,065,000	8,852,000	14,917,000	
Glasscock	15,140,000	2,949,000	18,089,000	
Gray	9,259,000	30,601,000	39,860,000	
Hale	99,872,000	25,201,000	125,073,000	10
Hall	15,931,000	4,630,000	20,561,000	
Hansford	39,382,000	107,152,000	146,532,000	7
Hartley	16,868,000	54,376,000	71,244,000	
Hemphill	3,153,000	18,812,000	21,965,000	
Hockley	42,674,000	6,190,000	48,864,000	
Howard	24,413,000	3,744,000	28,157,000	
Hutchinson	4,880,000	7,922,000	12,802,000	
Lamb	78,033,000	39,728,000	117,761,000	13
Lipscomb	7,224,000	9,113,000	16,887,000	
Lubbock	58,990,000	39,550,000	98,540,000	16
Lynn	49,301,000	2,184,000	51,485,000	
Martin	29,358,000	3,123,000	32,481,000	
Midland	7,518,000	5,284,000	12,802,000	
Moore	43,488,000	82,250,000	125,738,000	9
Motley	6,200,000	7,686,000	13,886,000	
Ochiltree	26,758,000	23,518,000	50,276,000	
Oldham	8,306,000	27,141,000	35,447,000	
Parmer	94,470,000	96,839,000	191,309,000	3
Potter	6,450,000	10,274,000	16,724,000	
Randall	14,968,000	59,749,000	74,717,000	
Roberts	1,279,000	5,680,000	6,959,000	
Sherman	37,121,000	63,689,000	100,810,000	15
Swisher	43,009,000	82,026,000	125,035,000	11
Terry	48,765,000	2,120,000	50,885,000	
Wheeler	9,578,000	26,299,000	35,877,000	
Yoakum	25,149,000	3,153,000	28,302,000	
AREA TOTAL	1,486,245,000	1,383,727,000	2,871,520,000	
STATE TOTAL	3,824,314,000	5,438,226,000	9,262,540,000	
Area as % of State	39%	25%	31%	

TABLE 5
1985 DATA
ACREAGE DEVOTED TO CROPS IN THE TEXAS PANHANDLE

County	Total Acres in Crops (and Rank in State)	Total Acres in Farms and Ranches
Andrews	65,000	884,000 (22)
Armstrong	141,000	557,000
Bailey	324,000 (15)	502,000
Borden	29,000	549,000
Briscoe	111,000	533,000
Carson	234,000	557,000
Castro	325,000 (14)	546,000
Childress	109,000	424,000
Cochran	317,000 (18)	459,000
Collingsworth	148,000	538,000
Cottle	108,000	535,000
Crosby	248,000	547,000
Dallam	370,000 (9)	926,000 (17)
Dawson	320,000 (17)	541,000
Deaf Smith	371,000 (8)	932,000 (15)
Dickens	83,000	565,000
Donley	63,000	557,000
Ector	1,000	461,000
Floyd	397,000 (6)	623,000
Gaines	483,000 (1)	885,000 (21)
Garza	55,000	543,000
Glasscock	71,000	519,000
Gray	159,000	572,000
Hale	456,000 (4)	605,000
Hall	138,000	534,000
Hansford	338,000 (13)	565,000
Hartley	146,000	928,000 (16)
Hemphill	50,000	561,000
Hockley	357,000 (11)	536,000
Howard	116,000	523,000
Hutchinson	51,000	542,000
Lamb	418,000 (5)	626,000
Lipscomb	128,000	580,000
Lubbock	359,000 (10)	458,000
Lynn	274,000 (24)	546,000
Martin	167,000	550,000
Midland	42,000	528,000
Moore	277,000 (23)	567,000
Motley	75,000	589,000
Ochiltree	301,000 (19)	563,000
Oldham	106,000	911,000 (18)
Parmer	390,000 (7)	533,000
Potter	69,000	512,000
Randall	175,000	550,000
Roberts	24,000	559,000
Sherman	294,000 (20)	571,000
Swisher	457,000 (3)	552,000
Terry	353,000 (12)	543,000
Wheeler	184,000	554,000
Yoakum	227,000	488,000
TOTAL	10,504,000	29,329,000
STATE TOTAL	25,590,000	136,300,000
PERCENT	41%	22%

TABLE 6
1985 DATA
PRODUCTION FIGURES FOR MAJOR CROPS
(With Rank in State)

County	Wheat (Bushels)	Corn (Bushels)	Sorghum (cwt)	Cotton (Bales)	Hay (Tons)
Andrews	106,000		199,000	9,500	5,500
Armstrong	2,034,000		756,000	450	15,600
Bailey	2,330,000	2,297,000 (19)	2,212,000 (19)	43,500 (25)	51,600
Borden	56,000			20,000	1,800
Briscoe	822,000	722,000	301,000	23,500	14,000
Carson	3,706,000 (13)	307,000	2,639,000 (13)		22,500
Castro	3,649,000 (15)	14,843,000 (2)	739,000	40,400	39,100
Childress	923,000		16,000	27,700	8,000
Cochran	956,000		2,419,000 (16)	26,200	7,000
Collingsworth	555,000		173,000	35,300	18,800
Cottle	339,000		55,000	27,100	19,100
Crosby	588,000		741,000	124,200 (10)	18,400
Dallam	5,720,000 (7)	9,511,000 (3)	2,554,000 (14)		46,900
Dawson	171,000		886,000	147,200 (6)	8,200
Deaf Smith	6,145,000 (4)	2,751,000 (15)	3,579,000 (5)	3,050	37,900
Dickens	416,000		75,000	23,200	11,100
Donley	335,000		97,000	13,400	13,300
Ector					
Floyd	3,619,000 (16)	1,573,000	1,389,000	115,400 (11)	13,600
Gaines	1,065,000		839,000	181,200 (1)	49,800
Garza	27,000		59,000	24,500	12,800
Glasscock	193,000		197,000	44,700 (24)	4,900
Gray	1,727,000	183,000	730,000	390	18,000
Hale	4,727,000 (9)	9,374,000 (4)	1,329,000	106,000 (13)	27,400
Hall	286,000	256,000	37,000	59,300 (21)	16,800
Hansford	7,555,000 (1)	461,000	3,912,000 (3)		32,600
Hartley	2,397,000 (25)	1,722,000	1,160,000		24,000
Hemphill	566,000		142,000		19,800
Hockley	344,000		1,038,000	124,700 (9)	11,600
Howard	198,000		128,000	75,000 (18)	8,200
Hutchinson	886,000	176,000	321,000		6,300
Lamb	2,035,000	6,121,000 (6)	1,366,000	98,600 (15)	118,600 (4)
Lipcomb	1,856,000		132,000		36,700
Lubbock	428,000	689,000	897,000	164,000 (3)	23,600
Lynn	210,000		398,000	155,300 (5)	17,000
Martin	114,000		252,000	91,000 (16)	18,500
Midland	51,000		17,000	20,800	15,900
Moore	5,997,000 (6)	4,308,000 (7)	3,689,000 (4)		9,600
Motley	134,000		22,000	19,500	12,300
Ochiltree	6,038,000 (5)	241,000	2,029,000 (21)		14,200
Oldham	1,928,000		514,000		6,000
Parmer	6,643,000 (2)	15,102,000 (1)	1,769,000 (25)	42,900	19,700
Potter	1,168,000	276,000	311,000		19,700
Randall	2,747,000 (21)		758,000		26,700
Roberts	208,000		118,000		4,200
Sherman	6,405,000 (3)	3,033,000 (14)	2,396,000 (17)		25,900
Swisher	4,007,000 (10)	4,271,000 (8)	1,515,000 (31)	29,600	28,600
Terry	437,000		618,000	144,500 (7)	9,900
Wheeler	1,817,000		533,000	3,800	48,800
Yoakum	276,000	224,000	1,281,000	49,600 (22)	21,300
AREA TOTAL	94,938,000	78,441,000	47,535,000	2,115,490	1,071,800
STATE TOTAL	187,200,000	156,450,000	135,464,000	3,910,000	8,175,000
PERCENT	51%	50%	35%	54%	13%

TABLE 7
1985 DATA
TOP TEN COUNTY RANKINGS IN CROP PRODUCTION FOR MAJOR CROPS IN THE AREA

County	Corn	Cotton	Sorghum	Sugarbeets	Sunflowers	Barley	Wheat
Andrews							
Armstrong							
Bailey					2		
Borden							
Briscoe							
Carson							
Castro	2			2	5	10	
Childress							
Cochran					7		
Collingsworth							
Cottle							
Crosby		10			8		
Dallam	3					5	7
Dawson		6					
Deaf Smith			5	1		4	4
Dickens							
Donley							
Ector							
Floyd					1		
Gaines		1					
Garza							
Glasscock							
Gray							
Hale	4				6		9
Hall							
Hansford			3			8	1
Hartley							
Hemphill							
Hockley		9					
Howard							
Hutchinson							
Lamb	6				3		
Lipscomb							
Lubbock		3					
Lynn		5			9		
Martin							
Midland							
Moore	7		4			1	6
Motley							
Ochiltree						9	5
Oldham							
Parmer	1			3	4	3	2
Potter					10		
Randall				4		7	
Roberts							
Sherman						2	3
Swisher	8					6	10
Terry		7					
Wheeler							
Yoakum							
TOTAL	7/10	7/10	3/10	4/4	10/10	10/10	9/10

Corn

Because of the availability of irrigation, 7 of the top 10 corn-producing counties in Texas are in the Panhandle. The region produced 50 percent of the state's total corn production in 1985, with Parmer and Castro Counties just south of the proposed site as the state's 1st and 2nd largest corn producer.

Grain Sorghum

Texas is one of the nation's top grain sorghum producers. In 1985, Texas ranked second in the nation in grain sorghum production, and in the 1982 census, it ranked first, with 41 of the top 100 counties in the nation; 20 of those counties are Panhandle counties. South Texas is the heaviest grain sorghum region for the state, with the Panhandle second. The Panhandle accounts for 35 percent of the state's production. Deaf Smith County ranks 13th in the nation in grain sorghum production.

Cotton

Texas is first in the nation in cotton production, at 3,910,000 bales in 1985. In the 1982 census, 34 of the leading 100 counties in the nation were in Texas. The Panhandle is by far the most productive cotton area in the state and the nation, accounting for 54 percent of the state's production. Seven of the state's top ten cotton counties are in the Panhandle, and eighteen of the nation's top counties are in the Panhandle.

Seed

The Texas Department of Agriculture is intensely concerned about the effects of a nuclear waste dump on seed production because seeds are necessary for all the other crop production, because the state's seed production is centered in the Panhandle, because one of the state's most important foundation seed farms is on the actual site that DOE is studying, because Texas seeds play an irreplaceable role in the nation's and the world's crop production, and because radiation could alter the genetics of the seeds grown in the area.

For years TDA has kept records of seeds grown in Texas that are then sold in Texas; data on total seed production and sales worldwide have not been kept. Because of the necessity to document the full size of the seed industry to DOE, TDA is now in the process of collecting data on total seed production, including sales out of state and internationally.

Estimates of total Texas production have been made by TDA's Seed Director, Kenneth Boatwright, and by officials of the Texas seed industry. In a statement to DOE, the president of the Texas Seedman's Association, Walter Moss, estimated that Texas produces more planting seed than any other state in the nation. Eighty to ninety percent of the state's seed production is in the Texas High Plains--because of its low humidity (which contributes to exceptionally high germination rates of about 90%), its rich soil, warm seasons, low rainfall during the harvest season, and intense cultivation that minimizes growth of Johnson grass.

Hybrid grain sorghum, wheat, cotton, soybean, and forage seed are the seeds grown in largest quantity in the Panhandle. Moss told DOE that "I want to emphasize that there is no replacement for this area of Texas and its ability to produce all types of hybrid sorghum....(and) the specific area being considered...has probably contributed more than any other place in the Plains to the purifying and increasing from breeder genetic material of wheat to released varieties....The area is much too important to justify an unnecessary risk that might destroy the area's seed-producing capability and destroy the seed's acceptance in the marketplace."

The seed farm that is on the proposed nuclear waste dump site is Richardson Seed Farm. Foundation wheat varieties started on the Richardson farm plant about 8.5 million acres of wheat in six states, accounting for 23% of the planting in those states, according to Texas A&M. This includes 3.1 million acres in Texas (42% of all wheat grown in Texas), 3.4 million acres in Oklahoma (44%), 1.8 million acres in Kanasas (13%), 122,000 acres in New Mexico (17%), and smaller acreage in Nebraska and Colorado.

Texas seed production is particularly important for hybrid grain sorghum. An estimated 85% of the world's sorghum seed is produced in the Texas High Plains, and the demand for sorghum is growing, both as a livestock feed and for human food. According to Donald Ator, Chief of the Seed Branch for USDA, "Although some hybrid sorghum seed is occasionally produced elsewhere, no other area quite measures up with the Texas 'High Plains' in the production of top quality hybrid sorghum seed." And Texas A&M Professor Darrell Rosenow has written that "The High Plains of Texas is the premier sorghum seed production area in the United States and the world."

Sugarbeets

Texas ranked eighth in the nation in sugarbeet production in 1985, harvesting 833,000 tons from 37,000 acres, with a value of approximately $31 million. Ninety-nine percent of Texas sugarbeets are grown in the Panhandle impact area. In 1985 production rankings, Deaf Smith was 1st, Castro 2nd, Parmer 3rd, and Randall 4th. Deaf Smith ranked number 30 in the nation in the 1982 census, the only Texas county to rank in the top 50 in the nation.

Vegetables

Texas is third in the nation in production of fresh market vegetables, ranking high in production of onions (2nd), carrots (2nd), broccoli (2nd), honeydew melons (2nd), cauliflower (5th), and lettuce (4th). The leading vegetable production areas of the state are the Rio Grande Valley, the Winter Garden area south of San Antonio, and the Panhandle. Castro is 7th in the state in total vegetable production, with 4,585 harvested acres; Hale is 6th at 5,290. The Panhandle is particularly productive for onions (Hale ranks 5th in the state and Castro 9th), bell peppers (Floyd is 2nd, Hale 3rd), potatoes (Castro is 2nd, Deaf Smith 3rd, Floyd 4th, Gaines 5th, Hale 6th, Lamb 7th, and Parmer 8th), and carrots (Deaf Smith is 4th, Parmer 10th).

Hay

Texas is ninth in the nation in hay production at 8,175,000 tons. This production is spread widely across the state. Lamb County in the Panhandle ranks 4th in total hay production. The Panhandle is a leading alfalfa producer, with 6 of the top 10 alfalfa counties.

Other Crops
Other crops are grown in smaller quantities in the Panhandle. The Panhandle accounts for 77 percent of the state's barley production, including all the leading counties. Eight Panhandle counties produce 97 percent of the state's sunflowers. Some Panhandle counties produce peanuts, with Gaines County being the number one county in the state. Eight of the top 25 soybean producing counties are in the Panhandle.

Livestock

Texas-grown beef ends up in hamburgers at McDonald's, Wendy's, and Burger King and in steaks from coast to coast. Texas is, not surprisingly, number 1 in the nation in:

--value of cattle and calves sold, at $4.1 billion in 1984
--number of cattle, at 13.6 million on January 1, 1986, more than twice the 2nd state (Nebraska and Kansas, 5.8 million each), and 12.9% of the nation's total number of cattle, 105 million
--the number of cattle on feed, 2,130,000
--the number of fed cattle marketed, 5,030,000
--total calf crop 4,750,000
--the number of beef cows that have calved, 5,178,000

The 6.2 billion pounds of beef slaughtered in Texas represent 15.6% of the 39.8 billion pounds of beef slaughtered in the United States in 1985. But many cattle that are raised or fed in Texas are shipped out of state, too. In 1985, 1.7 million head of cattle were shipped out of Texas to other states, and 2.9 million were shipped into Texas from other states. Many of these are to and from feedlots.

Cattle are raised throughout the state, in large numbers. But it is the Panhandle that is the largest cattle center of the state (only small numbers of hogs, poultry, and dairy products come out of the Panhandle). And Deaf Smith County is the number 1 cattle county in the state. Much of the strength of the cattle industry is based on the Panhandle feedlots--at least 80 feedlots are located there. Of the 2.1 million cattle on feed in the state, about 1.8 million are in the Panhandle; of the 5.0 million fed cattle marketed, about 4.3 million came from the Panhandle. A primary reason for the concentration of feedlots in the Panhandle is the abundance of grain grown there. It is cheaper to transport grain short distances to nearby feedlots than long distances from separate grain and cattle areas. A lot of cattle are brought from Midwest to the Panhandle for feeding to take advantage of the quanity of and nearness to feed grains.

The Texas Panhandle has 12 of the nation's top counties for value of cattle and calves sold, 10 of the top counties for cattle and calves inventory, and 14 of the top counties for fed cattle. Deaf Smith County ranks second in the nation in number of cattle and calves, in value of cattle and calves sold, and in fed cattle (See Table 3).

Table 8 shows the number of cattle in each county in the region, and the ranking in the state for the most productive counties. It also shows the number of fed cattle by county. The squrce on fed cattle by county is Southwestern Public Service Co., "Cattle-Feeding Capital of the World," 1986 Fed Cattle Survey.

TABLE 8
CATTLE AND FED CATTLE IN THE PANHANDLE

County	Number of Cattle Jan. 1, 1986	Rank in State	Cattle Fed in 1985
Andrews	16,000		NA
Armstrong	33,000		2,902
Bailey	113,000	17	103,600
Borden	17,000		NA
Briscoe	16,000		NA
Carson	55,000		42,500
Castro	156,000	6	379,000
Childress	20,000		NA
Cochran	38,000		52,500
Collingsworth	34,000		NA
Cottle	32,000		NA
Crosby	15,000		NA
Dallam	126,000	11	160,500
Dawson	7,000		NA
Deaf Smith	463,000	1	791,350
Dickens	30,000		NA
Donley	37,000		NA
Ector	22,000		NA
Floyd	41,000		41,787
Gaines	26,000		NA
Garza	20,000		NA
Glasscock	12,000		NA
Gray	87,000		144,832
Hale	44,000		113,042
Hall	17,000		NA
Hansford	199,000	4	375,636
Hartley	143,000	9	187,200
Hemphill	11,000		65,000
Hockley	14,000		6,000
Howard	14,000		NA
Hutchinson	29,000		30,000
Lamb	85,000		161,530
Lipscomb	43,000		NA
Lubbock	72,000		45,000
Lynn	12,000		NA
Martin	14,000		NA
Midland	18,000		NA
Moore	134,000	10	293,447
Motley	35,000		NA
Ochiltree	72,000		81,200
Oldham	72,000		98,000
Parmer	256,000	2	479,526
Potter	36,000		25,000
Randall	151,000	8	156,082
Roberts	36,000		NA
Sherman	134,000	10	265,085
Swisher	220,000	3	344,000
Terry	8,000		NA
Wheeler	83,000		50,375
Yoakum	9,000		NA
TOTAL	3,377,000		
STATEWIDE TOTAL	13,600,000		
PERCENT	25%		

III. AGRIBUSINESS CONCERNS

Businesses in the Panhandle are clearly concerned about the potential effects of a nuclear waste repository on their sales. As part of the state's review of DOE's plans, the Texas Department of Agriculture, in cooperation with the Governor's Office, conducted a survey of business owners and managers in Deaf Smith, Oldham, and Swisher counties. The survey showed that agriculture clearly dominates the local business economy: businesses directly involved in sales or purchases of food and fiber account for 92 percent of revenues and 57 percent of full-time employees in the three counties studied. Fifty-six percent of businesses, representing 84 percent of business revenues, said the repository would not be good for their business, while only one of three businesses, representing 6 percent of revenues, said they expect to benefit from a repository. Seventy-one percent said agricultural businesses would be hurt, and 65 percent said people wouldn't want to buy food from their county if a repository is built. Owners and managers who said they will close or definitely move if their county is chosen for the repository represent 20 percent of businesses and 35 percent of business revenues. (See "Economic Effects of a High-level Nuclear Waste Repository," December, 1985, Texas Department of Agriculture.)

Food Processing

Not surprisingly, since the Panhandle is a large producer of raw agricultural products, it is also a food-processing center. And since the agricultural industry and TDA have been focusing on new food processing ventures, the potential for the area is just now being realized, with new flour mills, slaughterhouse and packing house facilities, wineries, etc., being started in the Panhandle in the last few years. The Panhandle supports more than 100 food processing establishments, from slaughter and packing houses to dairies, food-grade grain mills, bakeries, and canned and packaged foods. More than 30 drinking water, beverage, and ice manufacturers are located in the Panhandle. And with the presence of so many cattle, feed and feed-ingredient manufacturing is also a big business, with at least 50 manufacturers.

Meat

The Panhandle cattle industry is the foundation for the meat processing plants in the area, which total at least 71. The potential for expansion is still present, as evidenced by the opening of a new facility in Childress County.

Corn

High fructose corn syrup is used as a sweetener in soft drinks, bakery products, candies, and other food products. Coca-Cola, Pepsi, and other soft drink companies announced in 1984 that they were switching to 100% corn syrup as a sweetener. That decision expanded the market for Panhandle corn products. The American Fructose Corporation's Dimmitt division (Castro County) has a daily grind capacity of 30,000 bushels. It produces 300 million pounds of high fructose sweentener per year. With a work force of 125, its payroll is about $400,000 a month. American Fructose spends about $4 million a month on corn.

Frito-Lay buys 300 million pounds a year of West-Texas grown, food-grade corn, worth $20 million to growers, and uses it in Fritos, Doritos, Tostidos, Dorito Lites, and Frito Lites. The company operates 5 corn elevators and 2 corn cleaning facilities.

The area supports several corn tortilla factories, including in Hereford the Hereford Tortilla Factory (which employs more than 80 local residents) and the City Tortilla Factory; and in Amarillo, the Tascosa Tortilla Factory, the Cuellar Tortilla Factory, and Paradise Mexican Food Products.

Sugar

Holly Sugar is the third largest domestic sugarbeet processor in the United States. Its total revenues for its Hereford operation in 1984 were $40,904,000. In 1985 it contracted over 37,000 acres of sugarbeets near Hereford.

Potatoes

The Panhandle is a leading potato producer, and some of the potatoes are processed in the area. Frito-Lay purchases about 600,000 hundredweight of potatoes in the Panhandle for its potato chips, with an approximate value of $3.3 million a year.

Natural Foods

The Panhandle is home to Arrowhead Mills, one of the nation's largest and most well-established natural foods producers. It processes and markets Panhandle foods nationwide, from flours to beans to granolas to peanut butter and other products. Its annual purchase of agricultural products--most of which come from the Panhandle--add to about 2 to 3 million pounds of corn; 1 million pounds of soybeans; and 6 to 10 million pounds of wheat.

Wine

The Panhandle is home for three of the state's wineries, as grapes are becoming a popular agricultural product for the area and as the industry and the state encourage marketing of Texas wines.

Agriculture-Based Industry

Agricultural By-products

With so much agricultural production, the Panhandle also produces large quantities of by-products, from cotton dust to cowhides to manure. Businesses are now beginning to grow up around these by-products. Valley View Energy Corp. is building a manure-fired electrical generating plant, which will burn 1600 tons of manure per day. The company has contracts with about 13 feed yards and is negotiating with others. The plant, located about five miles east of Hereford, could use about 50% to 70% of the manure produced by Hereford feed yards. Plant operations will require about 80 full-time employees at a payroll of $2.5 million per year, with support services for the plant and its employees providing another 300 local jobs.

Grain Storage

With such a large quantity of grain produced in the Panhandle, it is naturally also a grain storage center. The Panhandle has 226 of the 740 state-licensed grain warehouses and 70 of the state's 109 federally licensed warehouses. The 849 warehouses in Texas have a capacity of about 500 million bushels; the 296 warehouses in the Panhandle account for over 200 million of that capacity, or about 43% of the state's storage capacity.

Seed Businesses

With the large Panhandle seed production comes seed companies. The Panhandle is home to 61 seed companies--36 percent of the state's total of 169 seed companies. Deaf Smith County alone has five seed plants with 110 permanent employees and 650 to 700 employees during peak seasons. The proposed nuclear waste dump has already affected these businesses. A sunflower seed mill that was planned to be opened on land that DOE has designated for the site was instead located in Castro County; and the site would be located on the Richardson Seed Farm.

Employment

Twenty-two percent of the American workforce, about 23 million people, are employed in the food and fiber system. Texas ranks third, at 1.4 million food and fiber jobs. Many of these are in the Panhandle. According to an economic model developed by Texas Tech University and the Department of Water Resources, the largest increase in employment in the Texas Panhandle during the 1968-77 period was in manufacturing related to meat products, with an estimated number of new jobs at 3450. Textiles produced 2574 new jobs; and food processing other than meat produced 239 new jobs. In the ten years since that study, additional jobs in food and fiber industries have been created, but the study has not been updated.

The U.S. Census Bureau compiles employment figures, but its published data by counties is not specific enough to be able to break down total agriculture-related employment by counties. Some categories are readily identifiable as agriculture-related, and Table 9 provides that data on agriculture-related employment by county--though it is incomplete since other employment is agriculture-related but not so identified. What it does show is that 24 percent of the employment in the area can easily and directly be identified as agriculture-related--totalling a minimum of about 65,000 employees plus the approximate 15,000 farmers. And the actual figures would be higher if the data were more specific. In the rural counties, of course, the percentages are much higher. Deaf Smith County, for instance, has 56% of its workforce in the identified agriculture-related employment and in farming.

TABLE 9
AGRICULTURAL-RELATED EMPLOYMENT, 1984
(County Business Patterns, 1984, Census Bureau, CBP-8445, August, 1986)

	TOTAL EMPLOYEES IN COUNTY	Agricultural Services	Manufacturing					Wholesale Trade				Retail Trade		Transportation
			a	b	c	d	e	a	b	c	d	a	b	
Andrews	3,770	0-19						69				193	100-249	
Armstrong	186	0-19												
Bailey	1,229	20-99						20-99	80	20-99		57	85	
Borden	39													
Briscoe	262	0-19												
Carson	2500-4999								57			79	20-99	
Castro	1,558	37	100-249	20-99				74	61	57		85	59	0-19
Childress	1,314	0-19										105	101	
Cochran	567	20-99	100-249									52		
Collingsworth	642	0-19											53	
Cottle	278	0-19												
Crosby	1,135	170			100-249							78		
Dallam	1,688	14	100-249	20-99			0-19	73		68		68	153	
Dawson	2,773	20-99	20-99				100-249	83				179	174	167
Deaf Smith	4,747	144	819		20-99		20-99	90	74	174	100	158	309	
Dickens	300	0-19												
Donley	582	35										53		
Ector	44,171	53	150	131							96	1631	3140	
Floyd	1,203	30			20-99				78			63	61	80
Gaines	2,364	46					20-99	58	20-99			169	171	60
Garza	889	0-19										20-99	20-99	
Glasscock	33	0-19												
Gray	8,274	46		100-249							100-249	396	426	
Hale	8,137	78	1180	20-99	117			143	202	100-249	100-249	359	500-999	161
Hall	624	20-99												
Hereford	1,084	20-99						66				65	71	
Hartley	290	0-19												
Hemphill	1,011	0-19												
Hockley	4,712	49	20-99	20-99	90			86				278	250-499	
Howard	8,734	20-99		100-249			100-249	150				504	637	
Hutchinson	8,771	0-19		20-99				20-99				310	329	
Lamb	2,714	85					500-999	20-99	56	20-99		167	196	100-249
Lipscomb	544	0-19	20-99									60		
Lubbock	72,838	250-499	1776		135		20-99	265	355	169	1258	2492	5940	598
Lynn	732	20-99										54		20-99
Martin	517	0-19												
Midland	48,954	148	20-99		63				100-249	20-99		1375	2183	
Moore	4,389	20-99	1000-2499	20-99		20-99		61	89			248	253	470
Motley	178	0-19												
Ochiltree	3,055	0-19										110	641	20-99
Oldham	179													
Parmer	2,468	45	1000-2499					96	94			141	82	
Potter	53,827	384	3176	2893	20-99		500-999	72	79	124	513	1165	3303	20-99
Randall	13,116	290	100-249	20-99	483		250-499	20-99				960	1558	60
Roberts	118													
Sherman	427	0-19												
Swisher	1,495	0-19	20-99					60	121	74		147	97	20-99
Terry	2,888	100-249					20-99	79		20-99		136	100-249	20-99
Wheeler	1,113	20-99										105	125	
Yoakum	2,518	20-99	20-99					90				158	57	20-99
TOTAL	327,143	3,088	11,715	3,860	1,271	70	2,510	1,893	1,590	1,119	2,306	12,269	21,674	2,197

KEY TO TABLE 9

Agricultural Services:		crop services, veterinary services, etc.
Manufacturing:	(a)	food and kindred products
	(b)	agricultural chemicals
	(c)	farm machinery and equipment
	(d)	leather and leather products
	(e)	textile mill products
Wholesale Trade:	(a)	farm machinery
	(b)	farm product raw materials
	(c)	farm supplies
	(d)	grocery and related items
Retail Trade:	(a)	food stores
	(b)	eating places
Transportation:		farm product warehouse and storage

Range of Numbers: The Census Bureau cannot divulge the exact number because it must protect the identify of individual firms. For purposes of the totals in this table, the midpoint of the range was used.

No breakdown of employment was possible for 3 of the counties. For the remaining 47 counties, 65,543 agriculture-related employees were identified, or 20% of the total 326,807 employees (which does not include farmers in those counties, since they are self-employed). If 20% is applied to the total employment of the other 3 counties, and that total of 67 agriculture-related employees added, the total agriculture-related employment that is identified in the area is 65,610, plus the 15,000 to 16,000 farmers (see page 5 and Table 2), for a total of more than 80,000.

ECONOMIC EFFECTS OF A HIGH-LEVEL NUCLEAR WASTE REPOSITORY:

A Survey of Businesses in Deaf Smith, Oldham and Swisher Counties

December 1985

DEPARTMENT
OF AGRICULTURE
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Commissioner

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ECONOMIC EFFECTS OF A HIGH-LEVEL NUCLEAR WASTE REPOSITORY: A SURVEY OF BUSINESSES IN DEAF SMITH, OLDHAM AND SWISHER COUNTIES

December 1985

Julie Brody, Ph.D., and Christine Galavotti

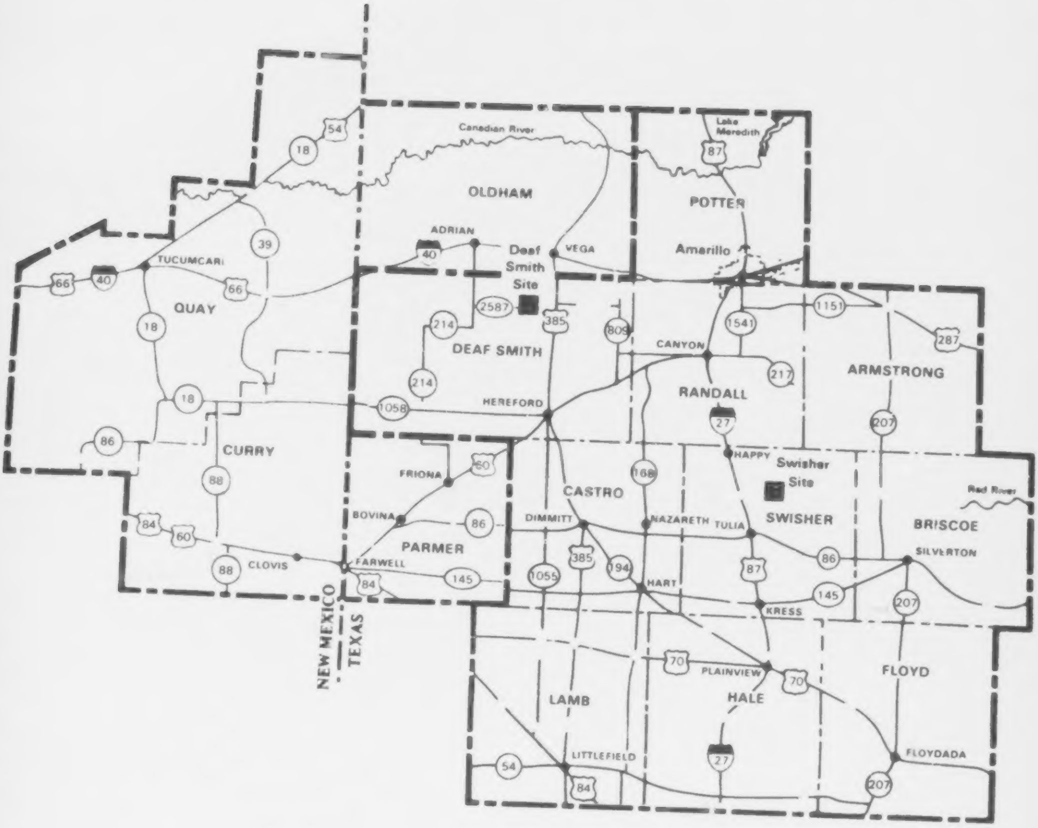
PREFACE

The survey summarized in this report was conducted by the Texas Department of Agriculture in cooperation with the Office of the Governor. Funding was provided by the Texas Nuclear Waste Programs Office, under a federal grant from the Nuclear Waste Fund. The fund was established by Congress to finance costs of high-level nuclear waste management, including state evaluation of U.S. Department of Energy site-selection studies.

Steve Frishman, director of the Texas Nuclear Waste Programs Office, provided valuable assistance in planning this study. Interviewers for the study were Jeanne Anderson, Judy Fleishman, Laura Hernandez, David Rudd, Javier E. Solis and Dr. Michael Zent. Their persistence and courtesy were important factors in the exceptionally high participation rate for this study. Rachel Hilton skillfully prepared the research forms and transcribed open-ended responses.

TDA also thanks business owners and managers in the repository site counties for their generous help in providing information about their current operations and about how a nuclear waste repository could affect their future.

Julie Brody
Project Director
December 1985


Canadian River
Lake Meredith
OLDHAM
POTTER
ADRIAN
Deaf Smith Site
VEGA
Amarillo
TUCUMCARI
QUAY
DEAF SMITH
CANYON
RANDALL
ARMSTRONG
HEREFORD
CURRY
FRIONA
HAPPY
Swisher Site
CASTRO
Red River
BOVINA
DIMMITT
NAZARETH
TULIA
SWISHER
BRISCOE
PARMER
SILVERTON
CLOVIS
FARWELL
HART
KRESS
NEW MEXICO
TEXAS
PLAINVIEW
FLOYD
LAMB
HALE
LITTLEFIELD
FLOYDADA
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18
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39
66
40
2587
385
809
1541
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287
214
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1058
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207
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LOCATION OF PROPOSED SITES FOR THE REPOSITORY

AND SURROUNDING COUNTIES

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EXECUTIVE SUMMARY

Residents of Deaf Smith, Oldham and Swisher counties are concerned that a federal high-level nuclear waste repository could upset the balance of farming and farm-related businesses in the region. Deaf Smith County, the number one Texas county in production of crops and livestock, is tentatively ranked as one of three finalists for the repository.

As part of the State's review of federal plans, the Texas Department of Agriculture, in cooperation with the Governor's Office, telephoned 380 business owners and managers to ask them how a nuclear waste repository would affect their business and the economy of their area. The survey represents a 50 percent random sample of businesses in Deaf Smith, Oldham and Swisher counties. Together these businesses total almost $2 billion in revenues, 3274 full-time employees, and 3654 part-time and seasonal workers.

Current Business Economy

--Agriculture clearly dominates the local business economy. Businesses directly involved in sales or purchases of food and fiber account for 92 percent of revenues and 57 percent of full-time employees for businesses in the three site counties.

--Most businesses in the site counties are locally owned. Eighty-eight percent are owned in their own county, and these businesses represent half of business revenues and 71 percent of business employees for the site counties.

--Large local purchases coupled with sales outside the area mean that agricultural businesses bring new dollars into the local economy. Purchasing patterns also reflect links among agricultural businesses that keep value-added dollars circulating locally.

Sixty-four percent of agricultural businesses make at least three-fourths of their purchases in their own county or neighboring counties, while 49 percent of non-agricultural businesses make three-fourths of their purchases locally.

Effects of the Repository

--Businesses are not optimistic about effects of a repository, and larger businesses are especially skeptical. Fifty-six percent of businesses, representing 84 percent of business revenues, said the repository would not be good for their business. One out of three businesses, representing 6 percent of revenues, said they expect to benefit.

--Although businesses are less pessimistic about site characterization, only 35 percent, representing 12 percent of revenues, expect to benefit from this phase of the nuclear waste program.

--Many businesses expect losses if their county is chosen for the repository.

Approximately 40 percent said their revenues and demand for their products or services will go down, and these businesses represent roughly three-fourths of current revenues.

About half, representing 61 percent of revenues, think their property values will decline.

While 27 percent of businesses plan to hire new workers if the repository is built nearby, 28 percent expect their workforce to decline. Businesses expecting new hires represent 18 percent of current employment, compared to 39 percent for those who expect fewer jobs.

--Owners and managers from diverse businesses agree about effects of the repository on agriculture. Seventy-one percent said agricultural businesses will be hurt, and 65 percent said people won't want to buy food from their county if a repository moves in.

--Many businesses lack confidence in U.S. Department of Energy management of the nuclear waste program. About half said that the site-selection process is unfair, and 60 percent said they believe most of the money for the repository will be spent outside the site county. Forty-seven percent said they believe it is "very likely" or "somewhat likely" that an accident at the repository will hurt their business, and the same percent said that they don't trust the federal government to build a repository that is safe.

--About half of the businesses said the nuclear waste program is currently discouraging new business in their county, and many expect additional effects if their county is chosen for site characterization. Nineteen percent said they will close or move if their county is chosen for characterization, while 7 percent said they will expand.

--Businesses that plan to leave because of the repository far outweigh those planning to expand. Owners and managers who said they will close or "definitely" move if their county is chosen for the repository represent 20 percent of businesses. They account for $629 million annually, or 35 percent of business revenues. Those who said they will expand are 9 percent of businesses, with $17 million (1 percent) of revenues.

INTRODUCTION

Deaf Smith, Oldham and Swisher counties are a Texas-sized cornucopia of beef, corn, wheat, sorghum, sugarbeets and other grains and vegetables. They produce $773 million in agricultural commodities annually, according to the 1982 U.S. Census of Agriculture.

Farms and ranches in these Panhandle counties operate in tandem with a substantial variety of agriculture-related businesses. Feedlots, packers and food processors benefit from close proximity to commodity supplies; while other businesses benefit from nearby markets for seed, farm implements, irrigation equipment and other farm products and services.

Local residents are afraid the balance of farming and farm-related business could be upset by plans to test the area as a site for the nation's first high-level nuclear waste repository. They worry that radiation could contaminate food grown, packed and processed in the area, or that consumers and wholesalers will buy elsewhere because of fear about nuclear wastes. And they question whether money spent on the repository will really benefit their communities.

Federal law requires the U.S. Department of Energy (DOE) to consider these issues in deciding on a site for the repository, and it gives states the responsibility to monitor the site-selection process. Because DOE research so far provides only general information about economic effects of a repository, Texas is working to review and supplement federal studies. As part of the State's efforts, the Texas Department of Agriculture (TDA), in cooperation with the Governor's Office, telephoned 380 business owners and managers near the proposed sites to learn how they think a nuclear repository would affect them. This systematic survey provides new information about current business activity in the site counties, and it shows what the nuclear waste program means for business plans and investments now and in the future. Results of this study complement earlier TDA surveys of local residents and farmers in the site areas (Brody, 1985).

To put the business survey in perspective, this report outlines the repository site-selection process, economic data about the Texas site counties and local responses to the nuclear waste program. Methods and results of the business survey are described in detail.

The Site-Selection Process

Procedures for choosing repository sites are set by the Nuclear Waste Policy Act of 1982 (NWPA). DOE plans to select the site for the first repository in 1991, and the facility is scheduled to open in 1998. Nine possible sites are being considered nationwide, including one in north-central Deaf Smith County near the Oldham County border and one in Swisher County near Tulia. Deaf Smith County was tentatively ranked in December 1984 as one of three finalists for the repository. Other tentative finalists are in Nevada and Washington.

The President is expected to approve three sites next year for "site characterization," a five-year program of environmental and socioeconomic research designed to identify an acceptable site for constructing the first repository. Extensive geologic and hydrologic tests during site characterization could mean substantial disruption to local communities. In Texas, site characterization would involve two mined shafts up to 12 feet across and more than 2,500 feet deep, and federal acquisition of rights to 5,760 acres of land. Costs of characterizing a site in Texas are estimated at roughly a billion dollars. DOE expects up to 360 employees to work directly on site characterization, and they expect to hire 10 to 25 percent of these employees from the local area. In addition, DOE forecasts up to 180 new jobs indirectly associated with the project.

The site finally chosen for the first repository will face 7 to 10 years of additional excavation and construction followed by 25 to 30 years of repository operation. The repository will house 70,000 metric tons of highly-radioactive wastes, including spent fuel from nuclear reactors and defense wastes. Costs for construction and operation of a repository in Texas are estimated at $6.8 billion, and estimates for employment range from 540 jobs early in construction to 1500 during peak operation. DOE expects 1500 additional jobs to be created indirectly by the repository. Additional information about DOE plans for the repository is available in the DOE Mission Plan (DOE, 1985) and Draft Environmental Assessments (DOE, 1984).

Economy of the Site Counties

Any project of this size would bring dramatic change for the rural communities being considered as possible sites. In addition, unique aspects of a high-level nuclear waste repository could mean changes beyond those associated with other large mining and construction projects. The Nuclear Waste Policy Act requires DOE to estimate effects of site characterization and of the repository on local communities, and to mitigate negative effects wherever possible. Efforts to estimate potential effects of a repository require a clear picture of how the local economy works now. Although this report cannot provide comprehensive economic data, some background information is helpful to put the TDA survey in perspective.

The starting point for any discussion of the local economy is agriculture. Deaf Smith County is the number twelve county in the nation in the market value of crops and livestock, according to the U.S. Census of Agriculture, and Swisher and Oldham counties are also exceptionally productive farmland. Deaf Smith is ranked second nationally in the value of cattle and calves sold, and Swisher is ranked sixteenth. Eight other Panhandle counties are also among the nation's top thirty counties in cattle sales (U.S. Department of Commerce, 1985a).

Agricultural businesses in the site counties include large feedlots and meat-packers. They also include major food processors, such as Frito-Lay, Holly Sugar and Ralston-Purina; a nationally-known health-food company, Arrowhead Mills; and several large vegetable packers. In addition, the area is an international center for seed production. Other businesses related to agriculture include grain elevators, a farm-implement manufacturer, and numerous small businesses selling agricultural supplies and services.

The pervasiveness of agriculture in all sectors of the local economy makes it difficult to estimate the size of farm-related businesses from published data sources. Standard economic divisions using broad categories of manufacturing and wholesale and retail trade obscure the fact that many activities within these sectors involve food production. For example, Holly Sugar and Ralston-Purina are classified as manufacturing, and some seed companies are classified as retail trade. One grain elevator is classified as "transportation and public utilities," another is grouped with wholesale trade, and one is classified as retail trade.

DOE's use of very general business categories means Draft Environmental Assessments for Texas (DOE, 1984) greatly understate the role of agriculture in the local economy. For example, the Draft EA (Table 3-51) shows 25 percent of employment in Deaf Smith County is in farming and 5 percent in agricultural services. No other agricultural employment is indicated. However, 1983 U.S. census County Business Patterns show that 84 percent of all manufacturing in Deaf Smith County involves food production, and 64 percent of wholesale trade involves sales of farm machinery, raw food and fiber, or farm supplies (U.S. Department of Commerce, 1985b). Combining figures from the census and the Draft EA indicates that approximately 45 percent of jobs in Deaf Smith County are closely related to agriculture. This estimate remains an understatement, because no retail sales are included in the agriculture count. Published County Business Patterns for Swisher and Oldham counties are not sufficiently detailed to allow a similar calculation.

Public Response to the Repository

Although Deaf Smith, Oldham and Swisher counties are rich in agricultural resources, farmers and some agriculture-related businesses are suffering this year from a nationwide recession in commodity prices. Despite these economic problems and the DOE promise of major expenditures and employment for site characterization and for the repository, public testimony and opinion polls indicate that local residents strongly oppose DOE plans. Surveys conducted by TDA and the Governor's Office show 81 percent of residents of the Texas site counties do not want the repository in their area (Brody, 1985). Concerns about water contamination and other possible threats to health and the environment are the strongest factors in public opposition to the repository, but opinions about how a nuclear repository would affect the economy also contribute significantly.[1]

TDA studies show that local residents generally do not expect economic gains from the repository. Sixty percent said the value of their own home will go down if a repository moves in, and 57 percent said the cost of living will rise. About half think the repository will mean more jobs for their county, but half think the amount of industry will go down. And local residents are evenly divided on whether the number of stores will increase or decline.

Skepticism about economic benefits may come, in part, from uncertainty about DOE projections. Since plans for site characterization and repository design haven't been set, forecasts are tentative. One source document for DOE Draft Environmental Assessments rates employment estimates at 40 to 50 percent accurate (Matthews, 1983).

At the same time, earlier surveys indicate that local residents are concerned that any benefits from the repository will be more than off-set by losses to existing businesses. Eighty percent of local residents believe farmland values will fall, and 77 percent think it is likely that food grown in the area will be contaminated by a repository. Farmers and food processors are also worried that fears about nuclear wastes will hurt sales even if their products are not actually contaminated.

Recent consumer reactions to food contaminants--for example, EDB in grains, the pesticide aldicarb in watermelons and antibiotics in meats--demonstrate that large-scale market effects of perceived contamination can develop quite rapidly. Similarly, studies by the Commonwealth of Pennsylvania showed a statewide drop in milk sales immediately after the accident at Three Mile Island (Governor's Office of Policy and Planning, undated).

Concern about market resistance or actual contamination of food products prompted several major food processors and seed companies to testify that they may be forced to leave if the repository moves in (For example, see U.S. Senate Committee on Environment and Public Works, 1985). In addition, TDA's survey of farm operators in Deaf Smith and Swisher counties shows 13 percent said they already changed their plans because of the repository. They described decisions to sell land and delay repairs and improvements. One farmer relocated a new food-processing facility to avoid possible effects from the repository. These earlier surveys together with testimony and comments on DOE plans indicate that the nuclear waste program is already influencing investments in the site areas and effects of a repository on local business could be quite severe.

Purpose of TDA Surveys

Although public testimony and comments on DOE documents already provide important evidence about potential effects of a nuclear repository on business in the site areas, the TDA survey of local businesses goes beyond existing data in several ways. First, it provides information from a representative sample of businesses, including those who have already participated in the site-selection process and those who have not. By allowing participants to speak confidentially, the survey provides information about business size and investment plans that is not available publicly. And confidentiality also means business owners and managers can speak without concern that their comments will themselves threaten markets by alerting buyers to the possibility of a nuclear repository nearby.[2] The survey also differs from other information sources in focusing specifically on how business owners and managers believe site characterization and the repository will affect them. It asks whether they have already made changes because of the nuclear waste program, and it asks what difference the repository would mean for their business in the future. Expectations like these are a critical part of the economy of Deaf Smith, Swisher and Oldham counties right now, since they influence current investment decisions and business plans.

Finally, the study provides additional information about the scope of current business activity in the site counties. DOE draft environmental assessments include very general descriptions of the local economy, but a detailed understanding of current economic activity is clearly needed as a basis for any forecasts about future economics. The TDA survey is not a comprehensive description of the High Plains economy or of potential effects of a nuclear waste repository, but it does provide new information about revenues and employment, and patterns of sales and purchases.

SURVEY METHODS

Sample

A representative sample of businesses in Deaf Smith, Swisher and Oldham counties and in neighboring towns was included in the survey. A list of businesses eligible to participate was assembled from a variety of sources: sales tax records of the State Comptroller of Public Accounts, trade and telephone directories, TDA records, The University of Texas Bureau of Business Research and local chambers of commerce. The following types of businesses were included: agriculture, mining, transportation, construction, manufacturing, wholesale and retail trade, real estate and services, including personal and business services, repairs, amusement and recreation, hotels and movie theaters. Banks, insurance companies and professional services, such as doctors and lawyers were not included.

Half of the eligible businesses were selected for the survey. In order to assure that businesses of all types were fairly represented, the business list was first ordered by Standard Industrial Classification code and duplicates were removed. Then a random starting point was chosen and every other business was selected for the study. This standard sampling procedure is technically referred to as a stratified systematic sample with a random start (Babbie, 1979). Businesses no longer in operation at the time of the interviews were removed from the list.

The final sample list included 423 businesses. Ninety percent of these businesses participated in the survey. Interviewers were able to contact 92 percent of the sample businesses, and 98 percent of those contacted completed an interview. Only eight businesses declined to participate. This excellent response rate indicates that survey results are a fair picture of businesses in Deaf Smith, Oldham and Swisher counties.[3]

Procedure

Owners and managers of businesses in the survey sample were first contacted by mail. Governor Mark White and Agriculture Commissioner Jim Hightower wrote jointly to each business in April 1985 to explain the survey. Six trained interviewers telephoned businesses the following week to arrange a convenient time to complete the interview. Interviews were conducted during weekdays, evenings and weekends. Bilingual interviewers were available for those who preferred to be interviewed in Spanish. Businesses were telephoned at least four times on different days and at different times in cases where interviewers received no answer on initial calls. Completed interviews were roughly 20 minutes long.

Instrument

Questions for structured telephone interviews were developed from pilot interviews, earlier studies of Deaf Smith, Oldham and Swisher counties (Brody, 1985) and other related research. Preliminary survey forms were reviewed by experts in survey research, marketing and economic development. Questions were then pilot-tested in telephone interviews with business owners in Travis, Deaf Smith and Swisher counties. The final wording of most survey questions is shown in Appendix B, and the full instrument is available from TDA.

Interviews included questions about current business operations, including employment and revenue levels and patterns of sales and purchases. Businesses were asked to report figures for their operations in Deaf Smith, Swisher, Oldham and neighboring counties, excluding revenues and employment outside the area. This decision to limit the survey to local business activities is conservative, since some companies have expressed concern that the repository will affect operations in other states (for example, see Allen and Jones, 1983).

In addition to questions about current business operations, interviewers asked for opinions about the nuclear waste program. They also asked business owners and managers how the nuclear waste program is affecting their own investments and business plans now, and how site characterization and actual construction of a nuclear repository could affect them in the future.

RESULTS

Characteristics of Businesses

Businesses included in the survey represent about $2 billion in annual revenues, 3274 full-time employees and 3654 part-time and seasonal workers. The average size of survey businesses is $5.5 million in annual revenues, 9 full-time employees and 10 part-time or seasonal workers.[4] The largest businesses range up to half-a-billion dollars in annual revenues, several hundred full-time employees, and nearly 2,000 part-time and seasonal workers.[5] Approximately half of the businesses are sole proprietorships, and about a third are corporations. Others include partnerships and cooperatives.

About four-fifths of the survey participants are business owners. The others are managers with decision-making responsibility for purchases and marketing. Five percent of the participants are Hispanic, and 79 percent are men. Further information about survey participants is shown in Table 1. In this table and elsewhere in this report, percentages may not sum to exactly 100 percent because of rounding.

Importance of Agriculture

In order to study potential effects of the nuclear waste repository on different sectors of the local economy, businesses were categorized by their links to agriculture. Businesses that buy or sell agricultural commodities (food or fiber) are classified as "direct agriculture." Those selling agriculture-related services or supplies to farms or "direct agriculture" businesses are classified as "indirect agriculture." This category includes veterinarians, aerial sprayers and suppliers of agricultural chemicals, farm implement dealers, irrigation services and other related businesses. The remaining businesses are classified as "non-agricultural."

About one-fourth of the survey businesses are directly involved in buying or selling agricultural commodities. Another 16 percent are indirectly involved in agriculture, and 59 percent are non-agricultural.

Table 1

Background Characteristics of Survey Participants

Characteristic	Percent
Businesses	
Sector	
Direct agriculture	26
Indirect agriculture	16
Non-agriculture	59
Ownership	
Sole proprietor	52
Partnership	10
Corporation	35
Cooperative	2
Other	1
Location of headquarters	
Deaf Smith, Oldham or Swisher	88
In Texas, but outside site counties	6
Outside Texas	6
Business includes farming	6
Respondents	
Position in business	
Owner	82
Manager	17
Other	2
Ethnicity	
Hispanic	5
Anglo	94
Other	1
Gender	
Male	79
Female	21
Personal income from farming	39

Although non-agricultural businesses are numerically a majority, agricultural businesses greatly outweigh them in economic impact. Agricultural businesses represent 92 percent of business revenues for the site counties and 57 percent of full-time employees. Non-agricultural businesses represent 5 percent of revenues and 31 percent of full-time employees. (These results are shown in Figure 1.)

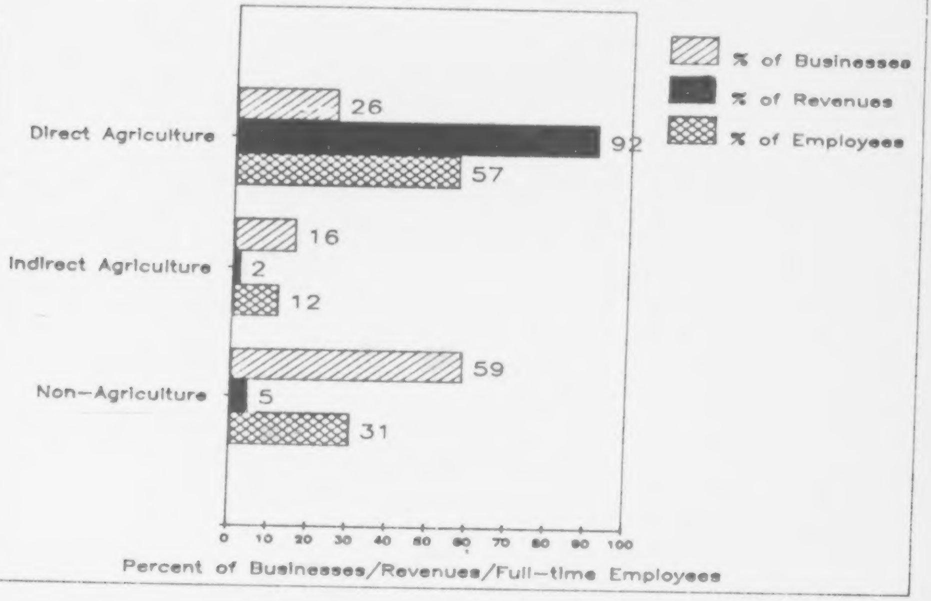


Figure 1

Profile of Survey Businesses

While these figures indicate that agriculture accounts for a very large share of the Deaf Smith, Oldham and Swisher county business economy, survey results also show that individual agricultural businesses are bigger, on average, than their non-agriculture counterparts.[6] The average agricultural business reported approximately $20 million in 1984 revenues, 37 times as much as the average non-agriculture business. Agricultural businesses average 20 full-time employees, four times the average for non-agriculture businesses, and they average 33 part-time and seasonal workers, compared with two for non-agriculture.

The importance of agriculture and its pervasive influence on the local economy is also indicated in several other ways. Six percent of the businesses in the sample are directly involved in farming, and 39 percent of the survey participants said their own household income includes income from a farm. Among those who are not directly involved in farming, many said their business depends on a farm-based local economy. For example, the owner of a sewing center said if the repository moves in, "farmers would leave, and I would have to close my business because farming women would not buy machines." Similar comments in public hearings, document reviews and earlier polls show intense public concern about possible effects of a nuclear repository on agriculture, and survey results indicate that this concern reflects a realistic assessment of the critical role of agriculture in the local economy.

Links to Local Communities

Construction of a nuclear waste repository in Texas would undoubtedly reduce the percentage of revenues and employees accounted for by agriculture and agriculture-related businesses. It could also change the patterns of local versus non-local involvement in the economy. Questions about how much DOE money will be spent locally are still unanswered, since plans for site characterization and the repository are incomplete. In the meantime, TDA research describes current patterns of local ownership, sales, and purchases to set a baseline for future comparison to DOE plans.

Ownership. Results show most local businesses are Texas-owned, and businesses owned within the site counties represent a substantial proportion of the Texas-based share. Eighty-eight percent of the survey businesses are owned within the site counties, and another 6 percent are owned elsewhere in Texas. About half the revenues and 71 percent of full-time employees are from locally-owned enterprises. Businesses owned in Texas but outside the site counties account for 37 percent of revenues and 15 percent of employees. Only six percent of the businesses are owned outside the state, and these companies account for 12 percent of revenues and 13 percent of employees.

Local purchases and sales. The local impact of existing businesses in the site counties is also shown by purchasing and sales patterns. Fifty-four percent of businesses reported that at least three-fourths of their purchases are from their own county or neighboring counties. Businesses directly involved in agriculture are even more likely to make substantial local purchases: 64 percent reported at least three-fourths of their purchases in the local area, and another 11 percent reported between half and three-fourths of their purchases are local. Non-agricultural businesses make larger purchases outside the local area: 40 percent reported less than a fourth of their purchases are from their own county or neighboring counties.[7]

Sales figures also indicate that businesses in the site counties have strong local ties. Eighty-six percent of businesses reported at least three-fourths of their sales are within their own county or neighboring counties, and 92 percent said at least three-fourths of their sales are in Texas. At the other end of the scale, 10 percent of businesses reported less than one-fourth local sales. Fourteen percent market their products nationally, and an additional 4 percent reported international sales.

Agricultural businesses reported a significantly higher proportion of sales outside the site area.[8] Twenty-five percent of agricultural businesses reported less than one-fourth local sales, compared with only 4 percent of non-agricultural businesses. There are no significant differences between large and small businesses in patterns of local sales and purchases. Information about sales and purchases is shown in greater detail in Table 2.

Table 2

Breakdown of Sales and Purchases by Business Sector

	Percent			
Sales and purchases	Direct Agriculture	Indirect Agriculture	Non-Agriculture	Total
Percent Local Sales				
75-100% local	69	85	93	86
50-74% local	5	0	2	2
25-49% local	1	7	1	2
< 25% local	25	8	4	10
Percent Local Purchases				
75-100% local	64	53	49	54
50-74% local	11	7	8	9
25-49% local	6	2	3	4
< 25% local	19	38	40	34

Sales patterns for seed companies were also analyzed separately because of controversy about the total volume of seed produced in the site area. TDA comments on Draft Environmental Assessments document certified seed production and Texas retail sales of seed from the High Plains, but the volume of non-certified seed sold outside the state is not known (Boatwright, 1985). Survey results indicate that seed companies in Deaf Smith, Oldham and Swisher counties sell between half and two-thirds of their seed outside of Texas; and this finding shows that existing seed data leave a serious gap in any estimates of repository effects on the seed business.[9] The total revenues of seed companies in the survey sample are $74 million.

The seed companies' large out-of-state sales follow the pattern for other agricultural businesses. Considering patterns of sales and purchases together for all survey businesses underlines the critical role of agriculture in the local economy. Since agricultural businesses report more local purchases and fewer local sales, they act as net exporters. They buy local commodities and services, so their local spending is substantial, but they sell processed foods outside the area, bringing revenues into the local economy. At the same time, non-agricultural businesses operate as net importers. They sell virtually all of their products and services locally, but they buy much of their supplies elsewhere, sending money out of the local economy.

The ability of large agricultural businesses to buy locally reflects a highly diverse and integrated agricultural economy in the site counties. Since Deaf Smith, Oldham and Swisher counties are top producers of grain, vegetables and livestock, agricultural businesses can economically make nearly all commodity purchases nearby. And food processors are linked not only to farming, but also to other related local businesses. The food production chain in the site counties begins with seed for food grains and feed, and extends to packaged beef, sugar, breakfast cereals and dozens of other foods.

These links within the economy mean that revenues circulate and recirculate locally, capturing a large chunk of the "value-added" food dollar. For example, in answering open-ended questions about their purchases, one vegetable packer reported purchases of more than 2,000 acres of potatoes and onions from farmers in Deaf Smith and neighboring counties. Meat packers reported purchases from local feedlots and ranchers, and cattlefeeders buy local grain. Several feedyards reported purchases of more than a million pounds a day from local farms. Feeders also buy molasses and pulp, providing an economical use for byproducts of sugar refining at Holly Sugar, and cattle byproducts are sold for pet food and other uses. New arrangements are even under way to sell manure from feedlots to generate electricity.

Labeled products. Another way that businesses may be linked to the local area is through labels that identify where their products come from. Sixteen percent of businesses said they sell products labeled with their town or county name. Labeled products are quite diverse, including clothing, machinery, chemicals, drinking cups, knives, seed and food. State law requires all seed to be marked with its origin, and potatoes and onions, among other vegetables, must be marked with the location where they are packed. Other labeled foods include beef, cereal and other processed grain products, and honey.

Specialty brands of labeled beef from the site counties illustrate a national trend towards increased labeling of foods that have traditionally been sold generically. Sellers hope to get top-dollar by convincing consumers that their labeled product is superior in quality (Hall, 1985).

The extent of current labeling and trends for the future are important to assessing effects of the repository because marketing of labeled foods is directly linked to the reputation of their source. Arrowhead Mills, a health food company in Deaf Smith County, has testified publicly that a nuclear waste repository would hurt its image. And other processors in the site counties told interviewers that consumers and wholesalers are already raising questions about effects of nuclear waste on their products.

In summary, the business economy of the site counties is heavily dominated by agricultural businesses, which are directly involved in purchases and sales of food and fiber. These businesses are highly integrated, so value-added dollars circulate locally. Local agricultural businesses make most of their purchases locally, and their sales outside the site counties bring new dollars into the economy. A variety of these businesses sell foods labeled with their town or county name, clearly linking their product image to the local reputation.

Effects of the Repository on Local Business

Beyond describing the current economy of Deaf Smith, Oldham and Swisher counties, the survey documents how business owners and managers think a nuclear waste repository would affect the local economy in general and their own businesses in particular. These opinions are important in anticipating effects of the nuclear waste program because survey participants have direct responsibility for business decisions that will influence the economy during coming years. The survey indicates how business owners and managers expect to change their plans if their county is chosen for the repository, and it explores the reasons for their views about the nuclear waste program. Survey questions and response percents are shown in Appendix B, and results are summarized below.

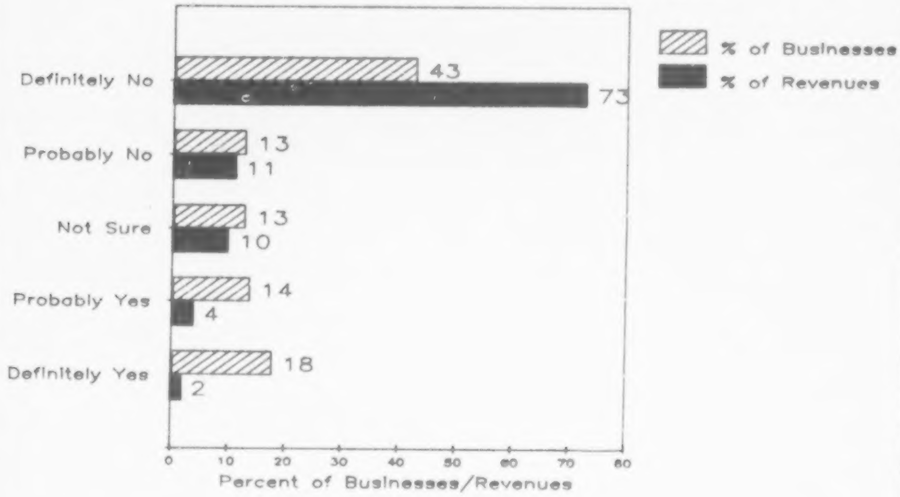
Overall Effects on Participants' Own Businesses

Most business owners and managers don't think their businesses will benefit from a nuclear waste repository, and the largest businesses are most concerned about the repository's effects. Asked whether the repository would "be a good thing for our business," 43 percent said "definitely no," and another 13 percent said "probably no." These responses represent 84 percent of business revenues. Less than a third of the survey participants, representing 6 percent of revenues, said their business would benefit from the repository. These results are shown in Figure 2.

Figure 2

Business Views of the Nuclear Waste Repository

Would the repository be good for your business?*



*Exact wording of the survey question is shown in Appendix B.

Businesses expressed somewhat less pessimism about site characterization than about the repository itself. However, a minority (35 percent) expect to benefit from the site characterization program, and these businesses represent only 12 percent of revenues. Nearly half of the businesses, representing 69 percent of revenues, said they would not benefit. The strong correlation between opinions about site characterization and opinions about the respository indicates that most businesses expect similar effects for both stages of the nuclear waste program ($r = .81$, $p < .01$).

Additional statistical tests using multiple regression were computed to learn what factors are important in determining whether a business expects to benefit from the repository or not. Procedures and results are described in greater detail in Appendix A. Results show that non-agricultural businesses are significantly more likely to expect benefits. In addition, men are more likely to expect benefits than women, a finding consistent with earlier research showing women are more concerned about nuclear hazards.

Patterns of local sales and purchases and product labeling were also included in the regression analysis. These factors were tested because Draft Environmental Assessments for Texas (DOE, 1984) assume that resistance to food grown near nuclear wastes will only influence sales of products that are labeled to indicate their origin and those that are sold locally. However, the survey analysis indicates that local sales and labeling are not important factors in determining business owners' and managers' expectations about the repository's effects. Public testimony and comments have also challenged DOE's view.

Effects on Business Indicators

In addition to the question of overall benefits from the repository, interviewers asked how the repository would affect specific aspects of business operations, including financing, employment, revenues, property values and demand for products or services. For each indicator, only a minority--37 percent or fewer--expect benefits from the repository, and these businesses represent less that 10 percent of revenues. Between 28 and 51 percent of businesses expect decreases in these indicators, and 20 to 58 percent expect no change.[10] Results for these indicators are shown in Table 3 and Figures 3 to 5.

Businesses are particularly concerned about effects of the repository on revenues and demand for their products and services. Forty-three percent of businesses, representing 78 percent of current revenues, said their revenues will drop if a repository is built in their county (Figure 3). Similarly, forty-three percent of businesses, representing 76 percent of revenues, believe consumer demand will fall (Figure 4).

Table 3

Expected Impact of Repository on Business Indicators

Impact	Percent of businesses	Percent of revenues
Demand for products and services		
Go down a lot	26	58
Go down some	17	18
Stay the same	21	17
Go up some	22	3
Go up a lot	15	4
Availability of agricultural products*		
Go down a lot	17	16
Go down some	19	10
Stay the same	58	74
Go up some	6	<1
Go up a lot	1	<1
Value of land and buildings		
Go down a lot	33	39
Go down some	18	22
Stay the same	22	31
Go up some	18	4
Go up a lot	10	4
Availability of credit and financing		
Go down a lot	20	38
Go down some	14	20
Stay the same	44	36
Go up some	13	1
Go up a lot	9	4
Number of employees		
Go down a lot	18	45
Go down some	10	3
Stay the same	46	49
Go up some	20	2
Go up a lot	7	1
Total revenues		
Go down a lot	26	46
Go down some	17	32
Stay the same	20	19
Go up some	25	3
Go up a lot	12	1

*This question was asked only of "direct agriculture" businesses, which buy agricultural commodities. Percentages are based on 79 businesses with $1.7 billion in revenues.

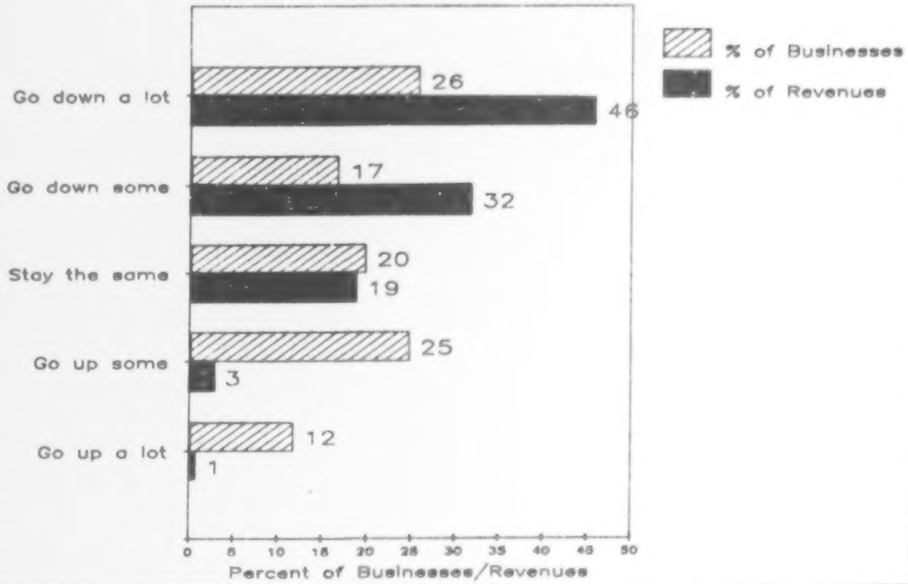


Figure 3

Impact on total revenues

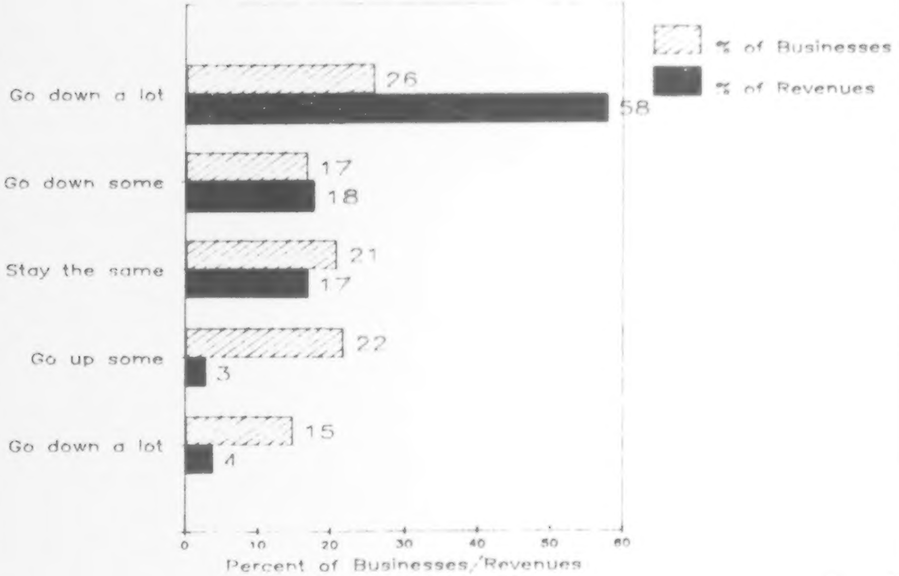


Figure 4

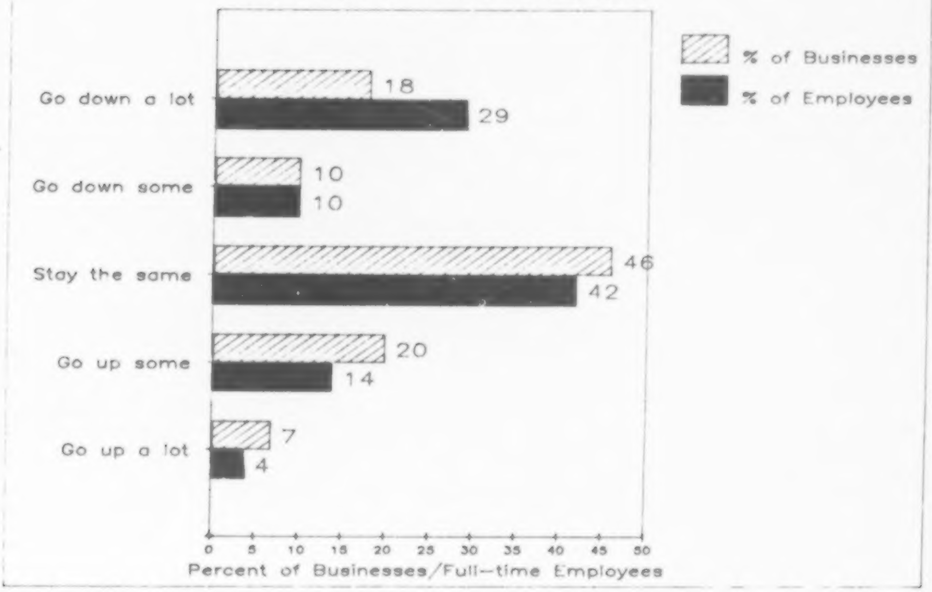
Impact on demand for products and services

In addition, many businesses are concerned about property values and financing. About half (61 percent of revenues) believe their property values will go down if the respository moves in, and 34 percent (58 percent of revenues) expect greater difficulty financing their operation. About a third of agricultural businesses expect reduced commodity supplies, but a majority expect no change.

Although DOE forecasts employment increases, local business owners and managers are not optimistic. Twenty-seven percent expect to increase their workforce, but these gains are offset by 28 percent of businesses anticipating lower employment. Businesses that expect to reduce their workforce currently employee 39 percent of full-time workers, while those that expect new hires now employ 18 percent (Figure 5).

Figure 5

Impact on number of employees



Cattle, Seed, Retail and Related Businesses

Survey results also indicate how particular groups of businesses feel about the repository (Table 4). Because of the importance of the beef industry to the economy of the site counties, responses for 21 feedlots, cattlebrokers, slaughtering and packing companies and other cattle businesses were analyzed separately. Fifty-two percent said demand for their products will go down if a repository is built in their county, and 75 percent said their business will not benefit.

Table 4

Expected Impact of Repository for Selected Groups of Businesses

	Percent of Businesses		
Impact	Cattle (n=21)	Seed (n=15)	Retail and Related* (n=235)
Good for business			
Definitely no	65	73	35
Probably no	10	20	10
Not sure	15	0	15
Probably yes	5	7	19
Definitely yes	5	0	21
Demand for products/services			
Go down a lot	33	47	23
Go down some	19	20	12
Stay the same	43	27	18
Go up some	5	0	28
Go up a lot	0	7	19

*This category includes restaurants, retail sales, construction, real estate, and personal services.

Seed company responses were also analyzed separately because of public concern about effects on seed production. Among the 15 seed companies included in the survey, two-thirds said demand for their seed will go down if a repository moves in, and 93 percent said their business will not benefit.

A third subgroup of responses was selected to represent businesses that are most likely to benefit from local spending associated with the repository. Restaurants, retail sales, construction, real estate and personal services, such as barber shops, were included in this subsample of 235 businesses. Even among these businesses, only a minority expect gains from the repository. Forty percent said their business would benefit from the repository, while 45 percent said they would not benefit and 15 percent were unsure.

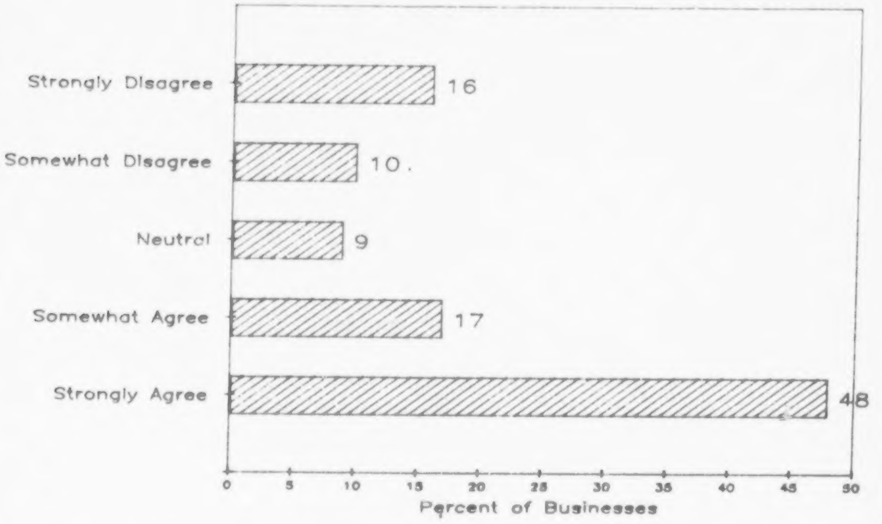
Opinions about the Nuclear Waste Program

While the results discussed so far ask business owners and managers how they think a repository would affect their own business, interviewers also asked for broader opinions. They asked about effects of the repository on the economy in general and about confidence in the nuclear waste program.

Although the survey represents a diverse sample of businesses in the site area, results show substantial agreement about effects of a repository on agriculture. Seventy-one percent of business owners and managers believe agriculture-related businesses would be hurt by a repository in their county, and 65 percent (Figure 6) agree that people won't want to buy food from their county if the repository moves in.

Figure 6

People won't buy agricultural products from county with repository*

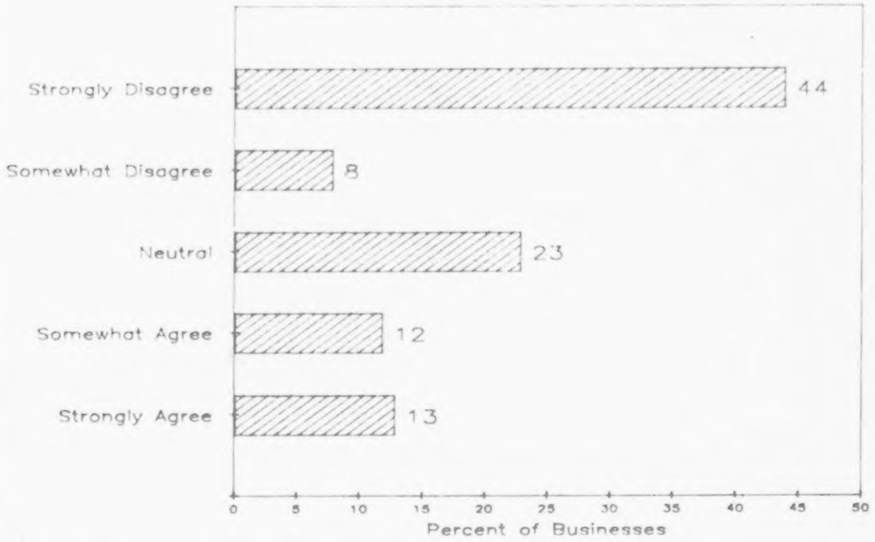


*Exact wording of the survey question is shown in Appendix B.

Businesses are also concerned about other aspects of the nuclear waste program. Sixty percent think that most of the money spent on the repository will be spent outside the site county. A majority (52 percent) believe the DOE site-selection process is unfair (Figure 7), and nearly half (48 percent) don't trust the federal government to build a repository that is safe. Twenty-two percent said it is "very likely" that there will be an accident at the repository that will affect their business, and 25 percent rated such an accident as "somewhat likely" (Figure 8).

Figure 7

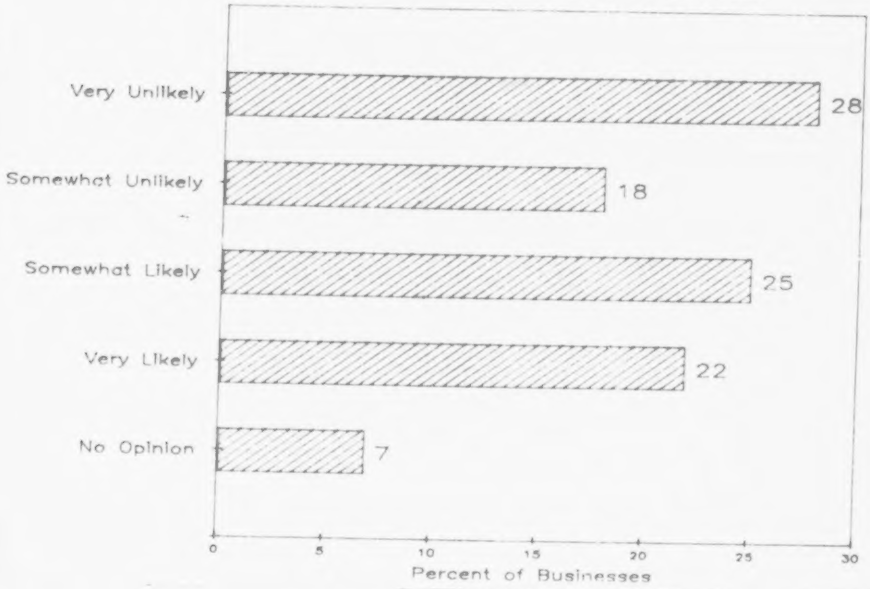
Site selection process is fair*



*Exact wording of the survey question is shown in Appendix B.

Figure 8

Likelihood of an accident affecting respondent's business



Open-ended questions allowed survey participants to explain the reasons for their opinions about the repository, and many of their comments indicate strong personal feelings about the nuclear waste program. The most frequent comments were about effects of the repository on agriculture. Thirty-four percent of the businesses raised this issue, and these comments often focused on potential market effects. Examples of comments are included here to illustrate business views.

> Someone is going to tell Mr. and Mrs. America that their beef is coming from a nuclear waste dump....The anti-beef people will have a field day.

> People buy our products because we make every effort to sell pure food without pesticide, insecticide or any other contaminants. People would perceive possible contamination, and they would be fearful and would look upon us as a Three-Mile-Island or Love Canal. They would buy from competitors.

> We've read all the information and studies, and we know that there may be some benefits to small businesses in the area. However, what worries us is this: The High Plains area has the highest concentration of cattle in the world. The average housewife and everybody is going to say, "we're getting radioactive beef."

> All you need is one person saying something, a consumer group, or anybody. All they have to do is raise the question. It'll be like a cancer scare...There's no way to convince people that the danger doesn't exist because we can't guarantee the safety of the repository...Besides, nobody trusts the federal government.

> If the public perception was that our beef was contaminated then we couldn't continue to buy from the area...we'd have to buy from elsewhere.

One fourth of the business owners and managers mentioned concern about health and environmental effects of the repository, and many of these comments focused on fears of water contamination.

> Everyone is worried about the aquifer being contaminated. It would mean contamination of products worldwide, and the quality of life here would be ruined...and the run-off from salt could and would contaminate surrounding farmland.

> Contamination of the Ogallala aquifer would be a bad deal. It covers many states, and I don't see how they can drill through it without contaminating the water.

In addition, some survey participants expect social changes that will affect their businesses and their families.

> The young people of the community, they will not feel safe to rear children that close to a repository. The younger group of people will leave, and they're my customers. I don't expect the people that will come in to be of the type to be buying books.

> If the repository is built, my son won't come back here from college to run the business because there won't be any business. Agriculture will be ruined and so will all the businesses dependent upon agriculture. I can't believe they'd try and put that thing here.

> We will have a lower class of people coming into the community. We recently had an oil boom and had many problems with shoplifting. We will probably have this kind of problem again with site characterization.

Other comments show that many local business owners and managers lack confidence in the federal nuclear waste program.

> I used to think if the government said something was safe, scientifically proven, you could depend on it. I'm a former military officer, and I just have always felt that way. But now, I just don't know. I'm sorry I feel that way, but I just do....I think the research is just a way to substantiate what they've already decided.

I just don't know whether the federal government cares about anything or not. They're indifferent, it seems to me.

Some people think it might help small merchants here, but they [DOE] have already spent millions of dollars here drilling and I have yet to see one penny of it.

I love the United States of America, but...they're not giving us a say....I just hope and pray that if they do put it here, it will be okay.

Although statistical results consistently show most business owners and mangers are skeptical about the repository, about one out of three do expect benefits. Repository supporters generally trust the federal government to build a safe facility, so they are not concerned about environmental risks. They see opposition to the repository as "scare tactics."

In general, this whole area is depressed. The repository might actually bring in some new money for the county and stimulate growth in non-agricultural areas...The repository is not as dangerous as Pantex, and that's been around for 40 years.

People will buy [products] like they always do. They're not reading labels or bottles to see where a nuclear plant is.

During the period of [the repository's] growth, there will be more people in the community and more plugged commodes, so it will help business.

We're close to Pantex already where there's all that nuclear stuff, so if it's going to be built...it might as well be built here so that we get some of the benefits, if there are any.

Scare tactics have been used by those against the repository. The federal government won't spend half a billion dollars for an unsafe facility. But you say the word "nuclear" and people have a knee-jerk reaction. I'm for [the repository], but I can't say that publicly because around here you'll get crucified by the know-nothings.

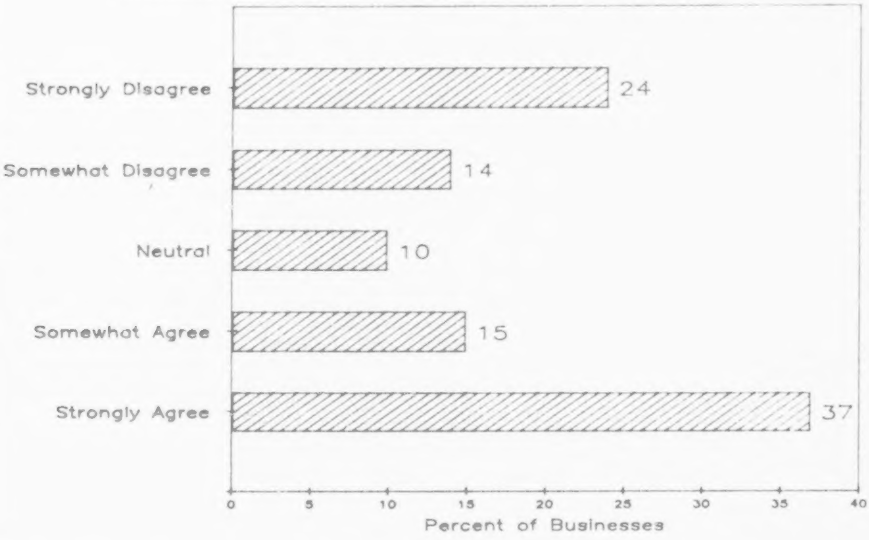
[The site selection process is] too fair. Hang public opinion, we should accept the repository with open arms. Someone has to. What do they think, it's going to glow in the dark?

Effects on Business Plans

Businesses are already factoring expectations about the nuclear waste program into their plans for the future. Although the repository is not scheduled to open until 1998, a majority of business owners and managers think the site-selection process is affecting the local economy now. Fifty-two percent believe the possibility of a repository is currently discouraging new businesses from locating in their area (Figure 9), and 48 percent said site-screening is making it hard to plan for their own business.

Figure 9

Repository is discouraging new businesses from opening*



*Exact wording of the survey question is shown in Appendix B.

A third of the businesses expect to make changes if their county is chosen for site-characterization. Participants who said they would make new plans were asked an open-ended question about what changes they expect. Twelve percent of survey participants said they will move their business if their county is chosen for site-characterization, 9 percent said they will sell or close, and 7 percent said they will expand.

Other businesses plan to make changes if their county is actually chosen for the repository. A tally of all open-ended comments shows 12 percent of businesses expect to close if their county is chosen for the repository and 9 percent plan to expand. Businesses planning to expand are primarily restaurants, gas stations and garages, real estate brokers and home-building and decorating companies.

Businesses were also asked specifically whether they expect to move if their county is chosen for the repository: 14 percent said "definitely yes" and 10 percent "probably yes." Some businesses that said they "definitely" will not move expressed frustration, saying that they are unable to relocate, even if they expect the repository to hurt their business. For example, seed companies have large investments of time and money in developing weed-free tracts of "prime" farmland with the water and weather needed to grow particular seed crops. Other businesses cited large investments in processing facilities that would be expensive to relocate. Owners and managers expressed frustration at the difficulty of planning for businesses that can't be easily moved. The owner of one agricultural business said,

> [If the repository is built nearby] I would be left helpless. I'm uncertain how I could continue in business. I would try to phase down. Business would decrease, so I'd have to layoff people. You just can't move this kind of business."

Owners and managers that said they "definitely" will not move are a majority (52 percent), and they represent 60 percent of business revenues. In addition, most agricultural businesses expect to maintain current patterns of local purchases. Forty-seven percent said they "definitely" will continue to buy local agricultural commodities, and 26 percent said they "probably" will buy locally. Businesses cited loyalty to local farmers and cost barriers to importing commodities from other areas as reasons for their plans to continue buying produce nearby. Some businesses said favorable growing conditions in the site areas could not be duplicated elsewhere.

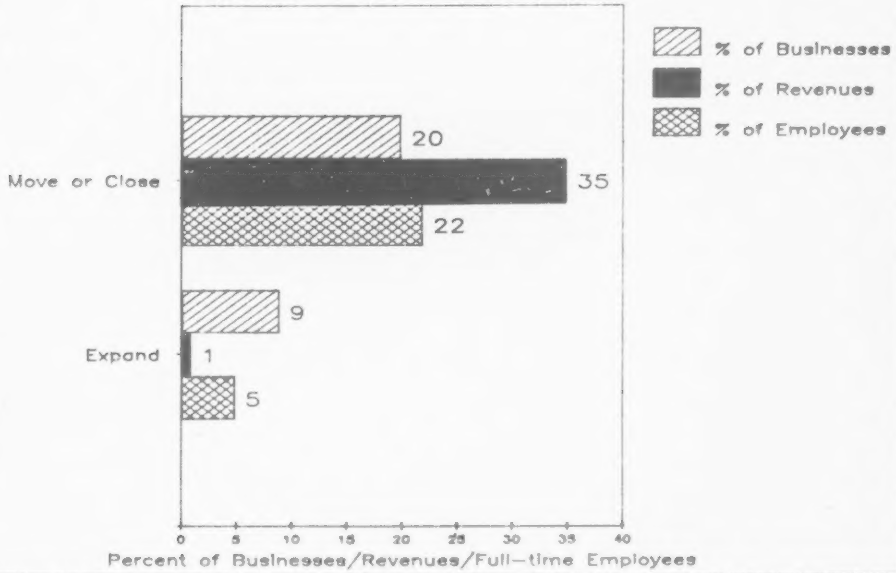
Businesses that do plan to move are diverse, including several feedlots and other agricultural businesses such as a cattle dealer, a well-driller and a veterinary supply company. Non-agricultural businesses with plans to move include a beauty shop, an electrician, an auto repair shop and a carpenter, among others.

Impact of Potential Business Losses

These changes could have a substantial effect on the local economy. Businesses planning to expand represent $17 million, or one percent of 1984 revenues, and they employ 169 full-time workers, 5 percent of employees in the sample. In comparison, businesses that said they would close or "definitely" move represent $629 million or 35 percent of current revenues, and they represent 715 full-time employees, 22 percent of employees in the sample (see Figure 10). Businesses that said they "probably" will move include another $144 million (8 percent) and 266 full-time employees (8 percent). Since survey participants represent a 50 percent sample of businesses in the site counties, effects on the business economy of the area may be estimated by doubling the revenue and employment figures for the survey businesses.

Figure 10

Changes in Business Plans



The direct loss of businesses that move or close will also have indirect effects on other operations. Efforts to estimate the size of potential business losses are beyond the scope of this study, but some examples of forecasts from an economic model of the Texas High Plains economy (Stoecker, Wright & Pyles, 1981) are included to indicate the potential seriousness of indirect effects. This model, developed by Texas Tech and Texas A&M universities, indicates that feedlots, in particular, have large indirect effects. The final demand multiplier for feedlots is 2.75, and the employment multiplier is 16.82. That means the loss of one dollar in feedlot revenues results in a $2.75 loss elsewhere in the Texas High Plains, and a loss of one feedlot employee means a decrease of 16.8 other jobs in the region. In the present study, 19 percent of feedlots, with $192 million in revenues and 88 employees, said they will "definitely" move if a nuclear repository is built in their county.

In comparison, the multipliers for milling and feeds are 2.74 for revenues and 5.06 for employees, and the multipliers for food processing are 3.46 for revenues and 4.26 for employees. Multipliers for construction and retail businesses that are most likely to expand if a repository moves in are lower. The multipliers for commercial and industrial construction are 2.61 for revenues and 2.29 for employment. The multipliers for restaurants are 2.50 for revenues and 1.21 for employment.

These figures provide only tentative estimates of effects of a repository on local businesses, since DOE doesn't plan to begin site characterization until 1986 and the repository isn't scheduled to open for more than a decade. In the interim, plans for some businesses will undoubtedly change. Nevertheless, survey results document the depth of current concern about effects of the repository, and they indicate the potential for severe losses to the local economy.

Business Participation in the Nuclear Waste Program

Although many businesses are deeply concerned about effects of a nuclear repository on their businesses and their communities, few owners and managers have participated in the DOE site-selection process. About a third have attended a public meeting about the repository, and 27 percent attended a meeting within the last year. Only 4 percent have ever testified at a hearing.

One reason for this low participation rate is concern that public testimony could, in itself, be bad for business. Owners and managers of agricultural firms sometimes expressed fears that their testimony could attract publicity that would hurt sales by associating their product with nuclear wastes. The manager of one of the largest businesses in the site area said his business opposes a repository in Texas because of potential effects on consumer perceptions of their products; but he said,

> We're not going to do anything [about the repository]. We don't want to put seeds in people's minds, stir everybody up about this thing....We just want to keep a low profile.

For businesses like this one, the TDA survey was an opportunity to express their views without stigmatizing their products.

Comparison to Earlier Texas Surveys

This survey of business owners and managers follows a series of earlier studies of representative samples of local residents and of farm operators in the site counties (Brody, 1985). Results of these surveys are difficult to compare because of differences in timing and sample selection and in the focus of survey questions. To improve the comparability of results, a subsample of responses to the 1984 residents' survey was analyzed separately. The subsample includes residents whose household income includes income from a business that they own.

Differences Among Surveys

Differences in research methods for the three studies are important to consider in interpreting any differences in results. For example, one factor that affects comparisons across studies is the timing of data collection. The surveys of residents and farm operators were conducted in 1984, before DOE release of Draft Environmental Assessments naming Deaf Smith County as a tentative finalist for the repository. As a result, differences between the business survey and earlier results could be due to changes in public opinion over the course of the site-selection process.

Other interpretations are also possible. For example, differences in results may reflect differences in sampling. The residents' survey represents the local population as a whole, so the proportion of men and women is about even. Among households with income from a business they own, 56 percent of participants in the residents' survey are male. In contrast, the business survey represents business owners and managers, not their households, and 79 percent of the sample is male. This difference is important because earlier research shows women are more concerned about nuclear hazards than men. Reasons for this effect are not well-understood, so differences in survey findings that result from differences in the gender-distribution of the samples are difficult to interpret.

A third possible source of differences is the wording of survey questions. The survey of residents asked participants to evaluate social and economic effects of the repository on their county as whole and on their own households. The business survey asked more narrowly defined questions about effects of the repository on participants' own businesses.

Comparison of Results

Despite these differences among the surveys, results for all three studies show very substantial local concern about the safety of a repository and its social and economic effects. Patterns of results are generally consistent, although some differences are apparent.

Opinions about the effects of a repository on agriculture are remarkably stable. Seventy-one percent of businesses in the present survey said they believe "agriculture-related businesses would be hurt by a nuclear waste repository" in their county. In the earlier survey of residents, 72 percent of households with business income said the amount of agricultural production in their county will go down if the repository moves in. Among farm operators, 80 percent said, "If a nuclear repository is built in my county, it will be harder for me to sell my crops."

Results for opinions about other aspects of the repository are less consistent, although changes in question wording mean contrasts are difficult to evaluate. Earlier results show 19 percent of residents with business income said the repository would be good for their county, 9 percent were unsure, and 75 percent said it would not be good. In the business survey, 32 percent said the repository would be good for their own business, 13 percent were unsure, and 56 percent said it would not be good for their business.

Open-ended comments in both surveys indicate that the narrower focus of the business survey may be a factor in the different response patterns. Several participants indicated that they oppose the repository because of concern about health and social effects on their families, even though they believe the facility might benefit the economy. For example, one business owner who said the repository "definitely" would benefit his business said,

> [I am] not for it even if it would increase business. It would ruin the land. Years later it would be utter destruction.

Other explanations of differences between the business and residents' surveys are also possible, as discussed earlier.

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Comparisons between the residents' and business surveys similarly suggest greater concern about effects of repository accidents on the county as a whole than on particular businesses. While 80 percent of residents with business income said it is "very likely" or "somewhat likely" that the repository will contaminate local water supplies, 47 percent of business owners and managers said an accident is "very likely" or "somewhat likely" to affect their own business.

Concerning employment, 59 percent of residents with business income said the number of jobs in their county will go up if the repository moves in, and 29 percent said employment will decline. In comparison, 27 percent of owners and managers expect to hire new workers, and 28 percent expect fewer employees. Since any increase in local employment will include workers at the repository and at new businesses in the area, results showing local expectations of greater employment benefits for the county as a whole than for existing businesses are realistic.

While differences between the residents' and business surveys are difficult to interpret, the contrast between businesses and farm operators is clear: Farmers are more concerned about the repository. Sixty-seven percent of farmers said the nuclear waste program is making it difficult for them to make financial plans, compared to 48 percent of businesses. Concerning safety, 74 percent of farmers said they don't trust the federal government to build a safe repository, compared to 48 percent of businesses and 83 percent of farmers said the site-selection process is unfair, compared with 52 percent of businesses. Considering the broad consensus that agriculture stands to be hurt by DOE plans, these differences between farmers and businesses are expected. Results indicate that concern about agriculture is a critical issue for all local groups.

SUMMARY OF RESULTS

Business owners and managers in Deaf Smith, Oldham and Swisher counties are deeply concerned about the possibility of a high-level nuclear waste repository in their area. About one out of three businesses, representing 6 percent of business revenues, expects to benefit from a repository, but a larger group expects to be hurt. Many are worried about the safety of the repository and about its effects on markets for their goods and services. Effects of a repository on agriculture are also a top concern. Expected losses for businesses now operating in the site counties far outweigh their expected gains.

The most direct losses to the local economy would come from businesses that close or move away because of the repository. Seventy-five owners and managers, representing 35 percent of business revenues, said they will close or "definitely" relocate if their county is selected for the repository.

Other businesses expect additional losses, even though they plan to continue operating. Between 40 and 50 percent of the survey businesses think revenues, property values and consumer demand will go down if a repository is built nearby. Twenty-eight percent said they will employ fewer workers. Even among businesses most likely to benefit--retail sales, real estate, construction and related businesses--only a minority think the repository will help.

For the sample as a whole, between 28 and 37 percent of businesses said revenues, property values, consumer demand and employment will increase if a repository moves in. Nine percent plan to expand if their county is chosen as the DOE site. Owners and mangers who plan to expand represent one percent of current business revenues in the site counties.

While business owners and managers currently expect greater losses than gains from the repository, estimates of overall economic effects of the nuclear waste program based on these results are tentative. Investment decisions will be reevaluated as the site-selection process develops, so the number of businesses with plans to expand, move or close will change. In addition, the survey does not consider potential benefits to new businesses not now operating in the site counties or to other sectors of the economy, including banking, insurance, government, and professional services.

Despite these warnings, results clearly indicate that many businesses expect to be hurt by the nuclear waste program. They also show the critical role of agriculture in the local economy. Any assessment of repository effects must consider the possibility of existing businesses leaving the area, and it must consider effects on agriculture in detail. Negative effects of a repository on agriculture could mean a very dramatic social and economic transformation of local communities.

NOTES

[1] In this report and in earlier TDA studies, the criterion for statistical significance is $p \leq .05$.

[2] Responses of individual businesses that participated in this survey are confidential. Information mentioning specific businesses in this report is from public sources.

[3] Although the very high response rate indicates the sample is representative of businesses in the two counties, additional statistical analyses were computed to compare businesses who completed an interview with those few who were not contacted or declined to participate. Businesses who participated in the survey were similar in location and type to those who did not participate.

[4] Standard deviations are as follows: for annual revenues, $30.5 million; for full-time employees, 22; for part-time and seasonal employees, 90. For most businesses, annual revenues are equivalent to gross sales.

[5] This general description of the largest businesses is included to indicate the range of businesses included in the survey. Exact figures are omitted to protect the confidentiality of information from these businesses.

[6] Differences among sectors were tested by analysis of variance. For revenues, $F = 13.35$, $p \leq .01$. For full-time employees, $F = 16.83$, $p \leq .01$. For part-time and seasonal employees, $F = 4.39$, $p \leq .05$. Differences among sectors account for approximately 8 percent of the variance (eta^2) for revenues and full-time employees, and 2 percent for part-time and seasonal employees.

[7] Purchasing differences among sectors were tested using chi square analysis. *Chi square* = 14.79 ($p \leq .05$), *gamma* = -.15.

[8] Differences in local sales by sector were tested using chi square analysis. *Chi square* = 45.00 ($p \leq .01$), *gamma* = .43.

[9] The estimate of out-of-state seed sales was calculated from businesses' total revenues and their response to a question asking what proportion of their sales are within Texas. Response categories for Texas sales were 100 percent, 75 to 99 percent, 50 to 74 percent, 25 to 49 percent, and less than 25 percent. For each seed company, revenues were multiplied first by the lower bound of the response category and then by the upper bound of the response category. For example, for a company that said 75 to 99 percent of its sales are within Texas, revenues were multiplied by 75 and then by 99. The

"lower bounds" revenue figures were summed for all seed companies, and the "upper bounds" revenues were summed separately. These sums were then divided by the sum of all revenues for seed companies. The resulting figures are lower and upper estimates of the proportion of seed sold in Texas. This estimate is quite broad. It is presented here to indicate that out-of-state seed sales are sizable, and more detailed information about seed production would be useful in assessing the potential effects of a nuclear waste repository in Texas.

[10] Percentages reported in the text, in Table 3 and Figures 3, 4 and 5 are based on businesses that expressed an opinion for each indicator. Appendix B shows percentages of businesses expressing no opinion.

Owners and managers are very consistent in their expectations about effects of the repository on their businesses, so indicators may be summed in a highly reliable scale (coefficient alpha = .93). The mean for this scale is 2.77 (SD = 1.13), indicating that average responses fall between "stay the same" and "go down somewhat." Previous research suggests that expectations about economic effects of a nuclear facility are important factors in people's overall attitudes towards these facilities, and this relationship is also found in the present study. The scale score representing owners' and managers' expectations about effects of a repository on specific business indicators is highly correlated with a composite score representing their overall judgment of whether site characterization and the repository would be good for their business (r = .79, $p \leq .01$). The composite for overall attitudes is described in Appendix A.

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APPENDIX A

MULTIPLE REGRESSION ANALYSIS

Multiple regression analysis was used to identify factors that are important in how businesses view the nuclear waste repository. This technique allows researchers to assess independent effects of several factors at once.

The regression analysis was designed to predict variations in attitudes towards the nuclear waste program from several characteristics of businesses and respondents. Respondents' gender is included because many earlier studies have found that women are more concerned than men about nuclear hazards. Including gender in the analysis statistically controls for this effect, so independent effects of other factors can be evaluated. Business size and sector are also included as predictors, and other predictors include patterns of local sales and purchases, and sales of products labeled with their origin.

In discussing the possibility that products from the repository area may be difficult to market because of consumer fears about nuclear contamination, DOE Draft Environmental Assessments assert that market effects of the repository will be limited to products labeled with their origin and those sold locally, so consumers know the product comes from the repository area. Regression analysis tests whether local owners and managers agree with DOE's assessment that local sales and labeling are important to the repository's effect on business.

Procedures

Several variables were recoded or created for this analysis. A new variable was created to represent businesses' overall views of how the nuclear waste program will affect their operations. This variable is the sum of responses to two survey questions: "If ______ County is chosen for site characterization, would that be a good thing for your business?" and "If ______ County is actually chosen as the final site for the nuclear waste repository, would that be a good thing for your business?" Responses to these questions are highly correlated ($\underline{r} = .81$, $\underline{p} \leq .01$), so summing them creates a more stable score that measures variation in attitudes with greater precision. This composite is the dependent variable in the regression equation.

Some predictor variables were also modified. Business sector is represented by a dummy-coded variable scored one for businesses directly and indirectly involved in agriculture. Revenue is entered in quadratic form (revenues plus revenues squared) because of preliminary results indicating that large and small businesses might be more strongly opposed to the repository than medium-sized firms (See Stimson et al. (1981) for a discussion of this procedure).

Results

Results show that this equation is a statistically significant predictor of business expectations about whether the nuclear waste program will benefit their business or not. However, only 8 percent of the variation in these attitudes is explained by factors included in the analysis.

Involvement in agriculture and gender are the most important factors in opinions about the repository. Non-agricultural businesses and men are more likely to believe the nuclear waste program will be good for their business.

Business size does not make a statistically significant independent contribution to attitudes towards the repository. Business size is associated with greater pessimism about the repository because agricultural businesses are larger, on average, than others but regression results indicate that sector, not size, is the critical factor in business expectations.

In addition, patterns of local sales and purchases and labeling are not statistically significant predictors of business views. Although DOE theorizes that businesses with non-local sales will be less vulnerable to market effects of the repository, regression results show a trend in the other direction. Businesses with fewer local sales tend to be more pessimistic about the repository's effects, although this effect is not statistically significant ($p = .08$).

The finding that men expect more benefits than women is expected on the basis of earlier research. The finding that agriculture-related businesses expect fewer benefits is consistent with information from many other sources indicating intense public concern about effects of a nuclear facility on farming and farm-related businesses. Regression results are shown in Table 1.

Appendix A

Table 1

Regression of Attitudes Towards the Nuclear Waste Program on Characteristics of Survey Participants

Variable	Unstandardized Coefficient (B)	S.E.B.	Beta	Adjusted R^2	Overall F(7,315)
Direct and indirect agriculture	-6.16	1.71	-.21*	.08	4.83*
Male	7.67	1.96	.21*		
Locally labeled products	.98	2.17	.02		
Proportion of non-local purchases	-.14	.57	-.01		
Proportion of non-local sales	-1.57	.90	-.10		
Revenues	-.43	.68	-.09		
Revenues^2	.30	.21	.02		

*p < .01.

APPENDIX B
SURVEY QUESTIONS
AND RESPONSE PERCENTAGES

The Texas Department of Agriculture, in cooperation with the Governor's Office, surveyed a representative sample of business owners and managers in Deaf Smith, Swisher and Oldham counties to document their views about a proposed high-level nuclear waste repository. The wording of all opinion questions is shown here along with the percent of survey participants who chose each answer. Percentages are based on 380 completed interviews. Percentages may not sum to exactly 100 percent because of rounding. The margin of error is approximately ± 4 percent. All interviews were introduced with a brief factual statement saying that two sites in Deaf Smith and Swisher counties are being considered by the U.S. Department of Energy for construction of a high-level nuclear waste repository. Complete copies of the survey instruments are available from TDA.

Next, I'm going to be asking about how you think the repository might affect your business.

You may already know that "site characterization" is the next step in the Department of Energy planning process. If ______ County is picked for site characterization, the Department of Energy would be doing extensive drilling to test the land and water in the area being considered for the repository.

Q. If ______ County is chosen for site characterization, would that be a good thing for your business?

DEFINITELY YES	16
PROBABLY YES	19
NOT SURE	16
PROBABLY NO	17
DEFINITELY NO	32

Q. If ______ County is chosen for site characterization, do you think you would change your business or your business plans?

DEFINITELY YES	19
PROBABLY YES	15
NOT SURE	14
PROBABLY NO	22
DEFINITELY NO	31

Q. If ______ County is actually chosen as the final site for the nuclear waste repository, would that be a good thing for your business?

DEFINITELY YES	18
PROBABLY YES	14
NOT SURE	13
PROBABLY NO	13
DEFINITELY NO	43

Q. And how likely do you think it is that a high-level nuclear waste repository **will** actually be built in ______ County?

VERY LIKELY	19
SOMEWHAT LIKELY	29
SOMEWHAT UNLIKELY	18
VERY UNLIKELY	23
DON'T KNOW/NO OPINION	11

Next I have some more specific questions about how your business might be affected if ______ County is chosen for the repository. I'd like to know whether you think your business would change over the next 15 years because of the repository.

Q. The first question is about the demand for your products or services over the next 15 years. Do you think the **demand for your products or services** will go up a lot, go up somewhat, stay the same, go down somewhat, or go down a lot because of the repository?

GO UP A LOT	14
GO UP SOMEWHAT	21
STAY THE SAME	20
GO DOWN SOMEWHAT	16
GO DOWN A LOT	25
DON'T KNOW	3

Q. How about the **availability of agricultural supplies** for your business? Do you think the availability of supplies will go up a lot, go up somewhat, stay the same, go down somewhat or go down a lot because of the repository?

GO UP A LOT	1
GO UP SOMEWHAT	5
STAY THE SAME	57
GO DOWN SOMEWHAT	18
GO DOWN A LOT	16
DON'T KNOW	2

Q. And how about the **value of the land and buildings** where your business is located?

GO UP A LOT	10
GO UP SOMEWHAT	17
STAY THE SAME	21
GO DOWN SOMEWHAT	17
GO DOWN A LOT	31
DON'T KNOW	5

Q. Do you think the availability of financing for your business will go up a lot, go up somewhat, stay the same, go down somewhat, or go down a lot because of the repository?

GO UP A LOT	8
GO UP SOMEWHAT	12
STAY THE SAME	40
GO DOWN SOMEWHAT	13
GO DOWN A LOT	18
DON'T KNOW	9

Q. And how about the **number of people you employ?**

GO UP A LOT	7
GO UP SOMEWHAT	20
STAY THE SAME	44
GO DOWN SOMEWHAT	9
GO DOWN A LOT	17
DON'T KNOW	4

Q. And how about your **total revenues**?

GO UP A LOT	11
GO UP SOMEWHAT	24
STAY THE SAME	19
GO DOWN SOMEWHAT	17
GO DOWN A LOT	25
DON'T KNOW	4

Now I'm going to read several statements about the repository and ask you to tell me whether you agree or disagree with each statement.

Q. Most of the money spent on the repository will be spent outside the county where the repository is built.

DEFINITELY YES	30
PROBABLY YES	30
NOT SURE	23
PROBABLY NO	12
DEFINITELY NO	6

Q. If the repository is built here, I will move my business to another county.

DEFINITELY YES	14
PROBABLY YES	10
NOT SURE	11
PROBABLY NO	13
DEFINITELY NO	52

Q. My business will continue to buy agricultural products from ______ County and neighboring counties if the repository is built here.

DEFINITELY YES	47
PROBABLY YES	26
NOT SURE	11
PROBABLY NO	7
DEFINITELY NO	9

Q. If ______ County is chosen for **site characterization**, my business will benefit from money the Department of Energy will spend in my area.

DEFINITELY YES	24
PROBABLY YES	20
NOT SURE	6
PROBABLY NO	15
DEFINITELY NO	36

Q. Agriculture-related businesses would be hurt by a nuclear waste repository in ______ County.

DEFINITELY YES	56
PROBABLY YES	15
NOT SURE	8
PROBABLY NO	11
DEFINITELY NO	10

Q. The process for choosing a site for the high-level nuclear waste repository is fair.

STRONGLY AGREE	13
SOMEWHAT AGREE	12
NEUTRAL	23
SOMEWHAT DISAGREE	8
STRONGLY DISAGREE	44

Q. People won't want to buy food or agricultural products from my county if the repository is built here.

STRONGLY AGREE	48
SOMEWHAT AGREE	17
NEUTRAL	9
SOMEWHAT DISAGREE	10
STRONGLY DISAGREE	16

Q. It's hard for me to make plans for my business because I don't know whether a nuclear waste repository will be built here or not.

STRONGLY AGREE	40
SOMEWHAT AGREE	8
NEUTRAL	15
SOMEWHAT DISAGREE	8
STRONGLY DISAGREE	28

Q. I trust the federal government to build a nuclear waste repository that is safe.

STRONGLY AGREE	28
SOMEWHAT AGREE	16
NEUTRAL	9
SOMEWHAT DISAGREE	13
STRONGLY DISAGREE	35

Q. The possibility of a nuclear waste repository is discouraging new businesses from opening in my country.

STRONGLY AGREE	37
SOMEWHAT AGREE	15
NEUTRAL	10
SOMEWHAT DISAGREE	14
STRONGLY DISAGREE	24

Q. My next question is about the possibility of an accident at the repository. If the repository is actually built in ______ County, how likely do you think it is that there will be an accident at the repository that will affect your business?

VERY LIKELY	22
SOMEWHAT LIKELY	25
SOMEWHAT UNLIKELY	18
VERY UNLIKELY	28
DON'T KNOW/NO OPINION	7

EFFECTS OF A HIGH-LEVEL NUCLEAR WASTE REPOSITORY ON LOCAL COMMUNITIES:

A Survey of Texas Panhandle Residents

Preliminary Report
February 1987

Julie Brody, Ph.D., and Judy Fleishman, Ph.D.

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Nuclear Waste Studies Project

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PREFACE

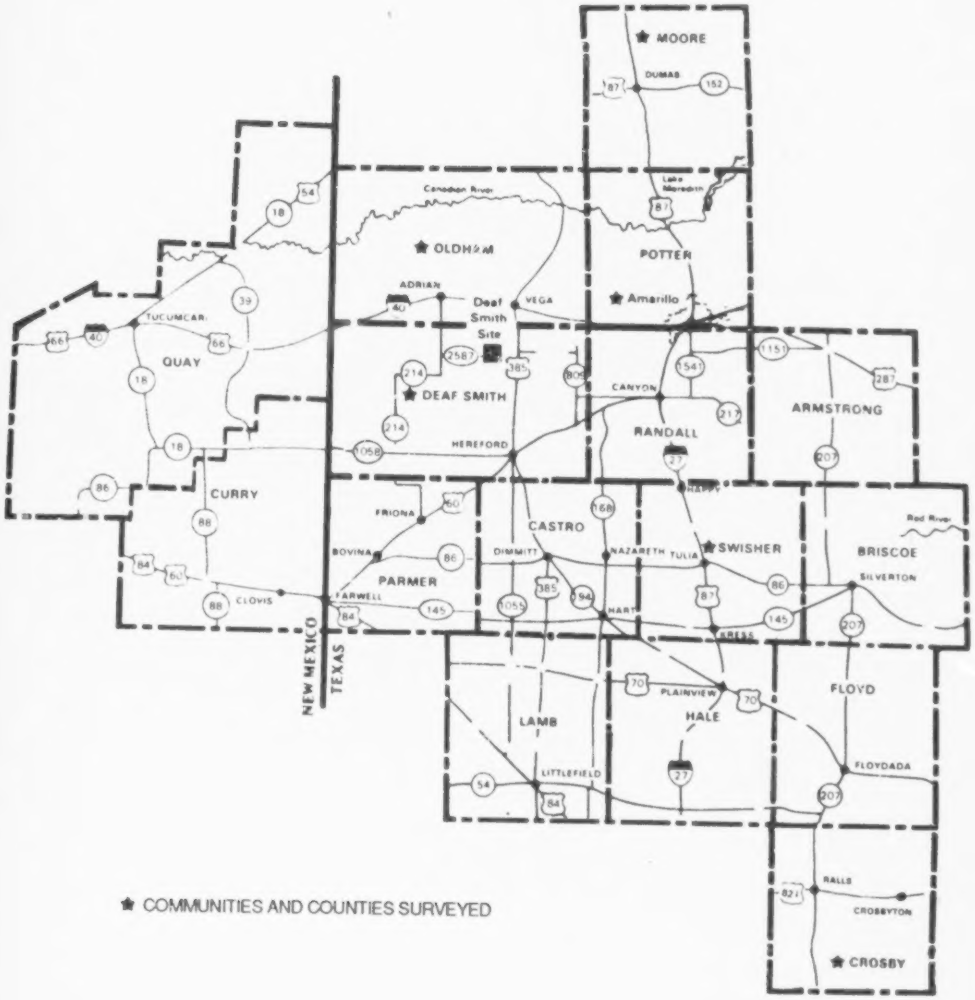
The research summarized in this preliminary report is part of the State of Texas' ongoing review of U.S. Department of Energy (DOE) plans for a high-level nuclear waste repository. The study was conducted by TDA in cooperation with the Office of the Governor. Funding was provided by the Texas Nuclear Waste Programs Office, under a grant from the Nuclear Waste Fund. The fund was established by Congress to finance costs of high-level nuclear waste management, including state evaluation of DOE site-selection studies.

Dr. Gary Keith, director of the TDA Nuclear Waste Studies Project, and Steve Frishman, director of the Texas Nuclear Waste Programs Office, provided valuable assistance in planning this research. Austin Polling, Inc., conducted the interviews. Opinion Analysts, Inc., was responsible for sample selection and data entry.

We especially thank the men and women of the Texas Panhandle who generously contributed their time and their thoughtful comments in telling us what the nuclear waste repository program means for them and their communities.

Julie Brody
Judy Fleishman
February 1987

LOCATION OF SURVEY AREAS


MOORE
DUMAS
87
152
Lake Meredith
Canadian River
OLDHAM
POTTER
Amarillo
ADRIAN
40
Deaf Smith Site
VEGA
TUCUMCARI
66
QUAY
39
18
54
2587
385
809
1541
1151
287
214
DEAF SMITH
CANYON
217
ARMSTRONG
RANDALL
1058
HEREFORD
27
207
86
CURRY
88
HAPPY
FRIONA
60
CASTRO
168
Red River
BRISCOE
BOVINA
DIMMITT
NAZARETH
TULIA
SWISHER
SILVERTON
84
PARMER
CLOVIS
FARWELL
145
1055
194
HART
KRESS
NEW MEXICO
TEXAS
70
PLAINVIEW
FLOYD
LAMB
HALE
FLOYDADA
54
LITTLEFIELD
821
RALLS
CROSBYTON
CROSBY
★ COMMUNITIES AND COUNTIES SURVEYED

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EXECUTIVE SUMMARY

Deaf Smith County, in the Texas Panhandle, was named in May 1986 as one of three finalists for the nation's first high-level nuclear waste repository. The U.S. Department of Energy (DOE) plans to begin a five-year period of "site characterization" studies in Deaf Smith later this year.

As part of Texas' responsibility under the Nuclear Waste Policy Act to review DOE site-selection efforts, the State initiated a program of systematic surveys of Texas Panhandle residents in 1984. The surveys provide direct, confidential information from a representative group of local residents, telling how the proposed repository would affect their communities.

To continue monitoring effects of the nuclear waste program, new interviews were conducted in October 1986. The surveys included 1388 residents of Amarillo and Deaf Smith, Oldham, Swisher, Moore and Crosby counties. These interviews provide the first comprehensive picture of Amarillo residents' perceptions of the nuclear waste program.

Major findings of the 1986 surveys:

1. Texas Panhandle residents oppose construction of a repository in Deaf Smith County by a margin of four to one. Opposition is strong in both urban and rural areas, and in communities near the proposed site and those farther away.
2. Panhandle residents expressed substantial opposition to site characterization in Deaf Smith County, although a sizable minority are not aware of DOE plans for characterization studies.
    a. Among residents who had heard about DOE plans for site characterization, a substantial majority (roughly 60 percent) oppose the studies.
    b. One out of four Deaf Smith-Oldham residents and 38 percent of Amarillo and Swisher residents had not heard about site characterization. Only 12 percent of Deaf Smith-Oldham residents are aware that characterization will involve drilling outside the nine-square-mile repository site.
3. Concern about health and the environment is a primary factor in public opposition to the repository.
    a. More than three-fourths of Texas Panhandle residents believe the repository is likely to contaminate water supplies.
    b. A substantial majority of residents of Amarillo and Swisher, Moore and Crosby counties believe the repository is likely to cause health problems extending to residents of their own counties.

4. Panhandle residents are also pessimistic about social and economic effects of the repository, particularly effects on agriculture and property values.

   a. More than 40 percent of the residents in Deaf Smith-Oldham, Amarillo and Swisher believe the repository would hurt the value of their own home; more than 70 percent said farmland values would decline.

   b. The site-selection process continues to influence current investments in the site area: 11 percent of Deaf Smith-Oldham residents said they changed their financial plans during the last two years because of the repository.

   c. A majority of Panhandle residents expect the repository to create new jobs, but opinions vary widely about the amount of local employment. Most residents estimate that 500 or fewer workers will be needed to build the repository.

5. Survey results represent the views of many local residents who have not been heard in the public participation process for the repository.

   a. About a third of Deaf Smith-Oldham and Swisher residents have attended a public hearing about the repository within the past two years, and a similar proportion attended a meeting of a community group.

   b. Many residents are dissatisfied with the repository site-selection process. In Amarillo, 63 percent said the process is not fair.

INTRODUCTION

Deaf Smith County, in the Texas Panhandle, is the number one farm county in the state, producing more than $300 million in agricultural commodities annually. The expansive landscape is dotted with grain elevators and cattle feedyards. In summer, green fields of sugarbeets, wheat, corn, sorghum and other grains and vegetables are irrigated with water from the Ogallala aquifer, the nation's largest underground water supply. Cattle and crops grown here supply the region's multibillion-dollar food-processing firms, including Frito-Lay, Holly Sugar, and Arrowhead Mills.

Now, the U.S. Department of Energy (DOE) is considering Deaf Smith for a new facility: the nation's first high-level nuclear waste repository. In May 1986, DOE named a nine-square-mile site in northern Deaf Smith County as one of three finalists for the repository. A proposed site in Swisher County, Texas, was ranked as less suitable, but it could be considered again later in the site-selection process. The other finalist sites are in Nevada and Washington.

The finished repository will house 70,000 metric tons of highly radioactive wastes in casks buried deep underground. These wastes, which come primarily from commercial nuclear power plants, must be isolated from people and the environment for at least 10,000 years.

Because of the importance of assuring a safe and appropriate location for the repository, Congress provided in the Nuclear Waste Policy Act of 1982 for extensive study of proposed sites. A five-year period of DOE "site characterization" studies is scheduled to begin this year in the finalist states. (DOE recently announced its intention to lengthen this study period.) "Characterization" in Texas will involve construction of two exploratory shafts 12 feet in diameter and more than 2500 feet deep, along with other studies of environmental, social and economic conditions that might be affected by the repository.

While DOE has responsibility for investigating possible sites, the Nuclear Waste Policy Act also gives responsibility to proposed host states to review the DOE site-selection process. The state has held public hearings, filed comments on DOE documents and researched potential environmental and socioeconomic effects of building a repository in Texas. As part of this ongoing effort to monitor DOE plans and develop independent data about the impact of a repository, the state initiated in 1984 a series of systematic surveys of residents of the proposed site area. These surveys provide confidential information directly from a representative sample of residents, telling how the nuclear waste program is affecting their communities. Specialized surveys addressed issues of particular importance to farmers and to business owners and managers. Results are reported in Panhandle Residents' Views of High-level Nuclear Waste Storage (J. Brody, May 1985) and Economic Effects of a High-level Nuclear Waste Repository: A Survey of Businesses in Deaf Smith, Oldham and Swisher Counties (J. Brody and C. Galavotti, December 1985), available from TDA.

In October 1986, researchers went back to local communities to update our understanding of how Panhandle residents view the high-level nuclear waste program. Telephone interviewers contacted 1388 households in Deaf Smith and Oldham counties, Amarillo and several rural counties farther away from the proposed site.

The surveys continue to serve three purposes outlined in the May 1985 report. First, they offer an additional opportunity for public participation in the site-selection process. While public hearings and document reviews provide important information about local effects of the repository, the surveys provide systematic, confidential information from a representative cross-section of local communities. Second, the surveys document local expectations about socioeconomic effects of the respository. These expectations are important both as indicators of potential future effects of a repository and of current effects of the siting process, since prospects for the future affect property values, investments patterns and personal plans throughout the site-selection process. Third, the survey establishes baseline data for monitoring socioeconomic change throughout the course of the nuclear waste program. If Texas is chosen for the repository, data collected now will be critical in documenting any effects of construction or operation of the facility.

The 1986 surveys also go beyond earlier research by including residents of Amarillo. Located about 35 miles from the proposed site, Amarillo had a population of 173,699 in 1980. DOE expects the city to be a hub for transportation of wastes and a source of employees for the repository and housing for new workers moving into the area. Amarillo could also be affected by other economic and environmental aspects of the repository. The city draws water from the Ogallala aquifer, underlying the proposed repository site, and it shares a resource-based economy with its rural neighbors, historically relying heavily on agriculture and oil-related businesses. Despite the potential for substantial effects of a Texas repository on Amarillo, the city has received relatively little attention in public participation processes, so this report offers the first comprehensive picture of Amarillo residents' views of the nuclear waste program.

This preliminary report gives basic methodological and statistical data about the 1986 surveys in Amarillo and Deaf Smith, Oldham, Swisher, Crosby and Moore counties. More detailed technical information about research methods and statistical analyses will be available later this year.

SURVEY METHODS

Sample

Survey participants were randomly selected from households in the following areas of the Texas Panhandle: (1) the Deaf Smith and southern Oldham county area, surrounding the proposed repository site; (2) Amarillo, a city within commuting distance of the site; (3) Swisher County, where DOE identified a possible site now ranked as less suitable for the repository; and (4) Moore and Crosby counties. Moore and Crosby counties were selected for comparison purposes in 1984 because they are similar in geographic, cultural, and economic character to Deaf Smith and Swisher counties, but are located farther away from proposed repository sites.

Participants in the 1986 surveys include residents who participated in the 1984 research and additional residents selected for the new survey. The 1984 participants were randomly selected from telephone directory listings. Households newly contacted in 1986 were selected by a standard random-digit-dialing technique, using computer-generated telephone numbers. One resident was chosen in each household by a standard random-selection procedure.

Residents who were interviewed in 1984 were contacted again to facilitate tracking of any changes in public perceptions of the repository or in effects of the repository on local communities. Additional households were added to the sample for several reasons: to extend the study to Amarillo, to make up for attrition in the original sample and to improve the representation of residents who moved into the area within the last two years and those who had new or unlisted telephone numbers in 1984.

Participation rates

Strong response rates for all of the study areas indicate that survey results are representative of local communities. For the Deaf Smith-Oldham area, results are based on 340 interviews, including 265 residents who were interviewed in 1984 and 75 who were newly contacted in 1986. Seventy-five percent of residents on the sample list completed an interview. The 3 percent who had moved out of the area since 1984 answered an abbreviated survey form, but their responses are not analyzed in this preliminary report. Interviewers were unable to contact 12 percent of residents on the sample list after several attempts, 11 percent declined to complete an interview, and 1 percent had died since 1984. Most residents who were not contacted had moved and could not be located. Among residents who were contacted by an interviewer, 88 percent participated in the survey.

For Amarillo, 609 residents (63 percent) completed an interview and 363 declined to participate. The lower response rate for this group is partly due to differences in sampling technique. Because all of the Amarillo households were selected by random-digit-dialing, they were not notified until the first telephone contact that they had been selected for the survey. In contrast, participants in the 1984 survey received a letter in advance explaining the purposes and sponsorship of the study. Earlier research indicates that writing to participants in advance dramatically increases participation rates for telephone surveys.

For Swisher County, results are based on 186 interviews, including 154 residents interviewed in 1984 and 32 new contacts. Seventy-five percent of the sample list agreed to participate, including 2 percent who moved out of the area since 1984. Interviewers were unable to contact 10 percent of the sample, 9 percent declined to participate, and 6 percent had died. Among residents contacted by an interviewer, 89 percent participated in the survey.

For the Moore and Crosby county areas, results are based on 253 interviews, including 173 interviewed in 1984 and 80 new contacts. Seventy-three percent of the original sample list participated in the survey, 12 percent could not be contacted, 14 percent declined to participate, and 1 percent had died. Among residents who were contacted by an interviewer, 85 percent participated in the survey.

Representativeness of Participants

Residents included in the 1986 surveys are broadly representative of communities in the research areas, as indicated by the demographic profile shown in Table 1 and the strong response rates reported above. As an additional check for possible bias in the survey sample, residents who declined to complete an interview were asked to answer a few questions, and their responses were compared statistically to residents who participated in the full survey. Thirty-eight percent of residents who declined to complete an interview answered the brief form. Statistical analysis (t-test) of responses to the question "...would you allow construction of a high-level nuclear waste repository in Texas?" shows no significant difference between residents who answered the brief form and those who completed the full interview. The two groups are also similar in the balance of men and women (chi-square), but they differ in average age. The average age of survey participants is 47 (SD = 16) compared to an average age of 57 (SD = 20) for those who declined to participate ($t = -7.6$, $df = 1549$, $p < .001$). This difference is expected because old age and health problems were common reasons for declining to complete an interview.

Procedure

Telephone interviews were conducted during October 1986. Interviews averaged 35 minutes for Deaf Smith-Oldham residents, 30 minutes for Swisher and 15 minutes for Moore and Crosby. For Amarillo, 270 residents completed a 25-minute interview, and 339 completed a 15-minute form.

TABLE I

Characteristics of Survey Participants

Characteristic	PERCENT OF HOUSEHOLDS*			
	Deaf Smith /Oldham	***Amarillo***	***Swisher***	***Moore/Crosby***
Gender				
Male	44	45	54	52
Female	56	55	46	48
Ethnicity				
Mexican-American/Hispanic	20	5	9	12
White/Anglo	78	91	90	87
Black/Other	1	4	1	1
Interviewed in Spanish	5	<1	4	4
Education				
0 to 8th Grade	14	4	15	14
9 to 11th Grade	12	13	18	10
High School Diploma	31	28	28	40
Some College or Technical Training	25	31	21	20
College Degree	12	16	14	11
Graduate of Professional School	5	8	5	4
Children under 18 in Household	50	46	29	47
Occupation				
Farmer	13	<1	17	13
Farmerworker	4	<1	5	2
Professional, Managerial	24	31	19	20
Clerical, Service	13	23	12	16
Blue Collar	12	14	7	11
Homemaker	18	13	16	21
Retired	14	13	22	14
Unemployed	1	2	0	1
Income				
Less than $10,000	14	11	21	14
$10,000 to $19,000	21	16	20	24
$20,000 to $29,000	25	26	22	23
$30,000 to $39,000	16	18	16	16
$40,000 to $49,000	7	12	6	9
$50,000 or more	17	18	16	13
Income Sources				
Farming	34	10	50	29
Farming Largest Source	23	2	27	21
Wages,Salaries,Tips,Commissions	69	79	52	69
Business Ownership	27	24	24	22

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*Percentages may not sum exactly to 100 because of rounding. For income sources, categories are not mutally exclusive so percentages sum to more than 100.

Survey participants were telephoned by experienced interviewers who received additional training specifically for this study. Interviews were conducted during daytime, evening and weekend hours, and participants were free to schedule calls at their convenience. Interviewers called each residence at least four times on different days and at different times in cases where initial calls were not answered. They also checked telephone information and forwarding addresses to locate members of the 1984 sample who had moved. Residents who participated in the 1984 survey were contacted by mail to explain the survey before they were contacted by phone.

Instrument

Structured telephone interviews asked residents for information about their overall evaluation of the proposed nuclear waste repository, knowledge about the nuclear waste program and expectations about socioeconomic and environmental effects of the repository. Interviews also asked about current effects of the site-selection process and expectations about site characterization. Questions were based on results of the 1984 surveys, pilot studies and research by other authors. Development of the questionnaire is discussed in detail in the May 1985 survey report. Question wording and response percentages are shown in the appendix to this preliminary report.

RESULTS FOR THE DEAF SMITH-OLDHAM AREA

Opposition to the Repository

Residents of Deaf Smith and Oldham counties, surrounding the proposed repository site, remain strongly opposed to construction of a nuclear waste repository in their area. When asked, "If it were up to you, would you allow construction of a high-level nuclear waste repository in Deaf Smith County," 71 percent said "definitely no" and 9 percent said "probably no." Asked "Do you think construction of the nuclear waste repository would be a good thing for your county," 60 percent said "definitely no" and 15 percent said "probably no." Complete information about response percentages for all survey questions is shown in the appendix.

As in 1984, residents who oppose the repository are concerned about its effect on agriculture, water quality, and community life. They believe economic damage from the repository will outweigh any benefits, and they distrust government efforts to locate the repository in their area.

- I don't want my water contaminated or my family's life endangered by radiation.... My husband is a farmer and if the repository is built, the land would become worthless, and we'd have to leave.
- Holly Sugar and Frito-Lay will move if [the repository] comes in. We will not be able to continue farming because there will be no place to process the crops. People won't buy our produce for psychological reasons.
- We are in a rich agriculture area. It would be foolish to risk harming an area like this.
- We have a water table that reaches all over the country, and we don't know for sure that the nuclear waste can be contained.
- [The repository] might bring some business in and take care of some unemployed people, but it is not a safe way to employ people.
- Government employees can flub up really easy and ruin our farmland and water supply.

Residents who favor the repository believe it will help the ailing local economy.

- We don't have any new blood in Hereford and the repository will help. The economy needs a boost.
- Agriculture is in bad shape. The oil industry is in bad shape. We need something else to take up the slack.
- Handling [nuclear wastes] will benefit our community's future, and the respository will probably be OK...We have to live with nuclear wastes. There will be technology to keep nuclear wastes in control.
- I've had the farm for sale about four years and can't find a buyer because of the proposed dump. If the repository comes in perhaps someone from [the repository] will buy the farm.

Opposition to Site Characterization

Deaf Smith-Oldham residents also expressed strong opposition to site characterization, although 24 percent had not heard about characterization before they were contacted for the survey. Among residents who had heard about site characterization, 64 percent said they "definitely" or "probably" would not allow characterization in Deaf Smith County if it were up to them. Asked whether characterization would be good for their county, 62 percent said "definitely" or "probably" no.

Opinions about site characterization and about the repository itself are closely related. The correlation between responses to the question asking whether residents would allow construction of the repository and the question asking whether they would allow site characterization is .71 ($p \leq .001$).

Responses to an open-ended question about reasons for residents' views of site characterization indicate that many oppose characterization because they believe it will increase the likelihood of their area being chosen for the repository. Residents who think Deaf Smith is clearly unsuitable for a repository believe characterization is a waste of money.

- Once they get on the land, it's going to be hard to stop them from putting a repository there.
- If you allow them to characterize a site, it's like unlocking a door for a burglary.
- I feel there are other places that are so much more adaptable. I see no need for the expense of characterization.

Some residents who favor site characterization believe it will lead to Deaf Smith being removed from the site list, while others think it will provide useful information for DOE planning.

- It will prove that this is not the place for the repository.
- It's important that [DOE] choose the right place, and without site characterization, this is not possible.

Many local residents are concerned that site characterization itself will be a divisive issue and have negative effects on the environment and economy.

- [Site characterization] would create a lot of dissension, ill will and frustration among people in the county.
- [Site characterization] will take private land and totally upset community life here in Deaf Smith and Oldham counties. It will upset schools, churches, community life, everything.
- Once they start drilling, people get the impression [the repository] is coming. Fear will bring on lots of medical problems to a lot of elderly people.
- To do that site characterization, they've still got to mess with the water.
- They've got to go through the aquifer, and they're going to mess up a lot more than nine square miles.
- [Site characterization] will bring land prices down and therefore affect the whole county.
- [Site characterization] will take acres out for drilling holes and split up farms so they won't be able to farm. [It] will flat bust Vega, and they don't even count Vega as a town.
- Site characterization is holding off agriculture-related businesses that are interested in coming into the county. They don't want to come until they know what will happen. People east or west of us will not buy our agricultural products because they will associate us with nuclear dumps even before the dump is built.

Residents who favor site characterization believe it will be safe and expect economic benefits from DOE expenditures.

- [Site characterization] won't hurt anything. It won't affect anyone nor hurt anyone.
- I'm in construction and it'll help me.
- [Site characterization] will provide jobs for a while, and we won't be in danger from it.
- I'm glad [DOE] will bring several people in and boost the economy and then everything will be gone.
- Technology guarantees safety and [site characterization] will put people to work.

- Economically we would benefit for a short time. The businesses that would move in and the amount of people trading in town would help.

Expectations About Social and Economic Effects

Responses to structured questions about social and economic effects of the repository indicate that most Deaf Smith-Oldham residents expect a variety of negative social and economic effects from the repository. A majority expect increases in taxes and the cost of living and decreases in agricultural production and the value of farmland. Nearly half expect the crime rate to rise and the amount of industry to decline; 46 percent expect the value of their own home to go down. At the same time, most residents expect the number of jobs in their county and the number of stores and businesses to go up if the repository is built in Deaf Smith.

Expectations About Health and the Environment

Residents expressed strong concern about effects of the repository on health and the environment. When asked to rate six possible hazards on a four-point response scale ranging from "very likely" to "very unlikely," more than two-thirds rated each risk as "very likely" or "somewhat likely." Forty-eight percent said it is "very likely" that radioactive wastes will escape into the water, and 29 percent said water contamination is "somewhat likely." Fewer than one out of seven Deaf Smith and Oldham residents rated each hazard as "very unlikely."

Knowledge About the Nuclear Waste Program

In addition to questions about residents' expectations about the repository, interviews included a series of true-false questions about factual aspects of the nuclear waste program. A substantial majority of residents correctly answered questions about basic characteristics of nuclear wastes, private ownership of the proposed site, previous DOE activity in Deaf Smith County, plans for drilling through the Ogallala during site characterization and the long-term schedule for opening the repository. Residents were less well-informed about other plans for site characterization. Only 12 percent were aware that site characterization will involve drilling outside the nine-square-mile site, 25 percent knew of DOE plans to freeze the Ogallala, and 32 percent knew that nuclear wastes will not be tested underground in Deaf Smith during characterization. Less than half were aware that some of the salt excavated during construction of a repository would not be replaced underground.

Previous TDA studies indicated substantial uncertainty about effects of the repository on local employment, and the 1986 surveys also show a wide spectrum of expectations about employment. Estimates of the number of employees needed to construct the repository ranged from 10 to 35,000. Seventy percent expect 500 or fewer employees to build the repository, while 5 percent estimate 1500 or more. On average, Deaf Smith-Oldham residents expect 32 percent of construction employees to be hired locally from the Texas Panhandle (SD = 24). A majority believe one fourth or fewer of the construction workers will be hired locally. Estimates of local employment during operation of the repository are similar. On average, Deaf Smith-Oldham residents expect 28 percent of repository operators to be hired locally (SD = 24). Sixty percent believe a fourth or less of the operators will be hired locally. Comments by one Deaf Smith-Oldham resident show the feelings of frustration expressed by many participants when they were asked to estimate the number of employees needed for construction:

- I hesitate to give a number...DOE has given us so many numbers. I just can't tell you how many people will be employed. I'd just be guessing.

Environmental Assessments for Deaf Smith County indicate that DOE expects to employ approximately 1500 workers at the peak of construction. They expect to hire half of construction workers and 65 percent of operators locally.

Public Participation and Other Actions

A substantial minority of local residents have participated in the site-selection process. About a third have attended a public hearing about the repository during the past two years, and a similar percent attended a meeting of a community group concerned about the repository. Only 6 percent testified at a public hearing.

Eleven percent said they had changed their personal or financial plans during the past two years because of the repository. Changes included moving, closing or selling a farm or business, not expanding, and shifting finances toward short-term investments.

RESULTS FOR AMARILLO

Opposition to the Repository

Amarillo residents expressed strong opposition to constructing a nuclear waste repository in Deaf Smith County. Asked whether they would allow construction if it were up to them, 72 percent said "definitely no" and another 9 percent said "probably no." Asked whether the repository would be good for their county, 56 percent said "definitely no" and 11 percent said "probably no." Concerns about agriculture, water contamination and other environmental risks were the most common reasons for opposing the repository.

About three-fourths of Amarillo residents agreed with the statement, "People won't want to buy food or agricultural products from Deaf Smith County if the repository is built here." Sixty-three percent disagree with the statement, "The process for choosing a site for the high-level nuclear waste repository is fair."

Comments about the repository were similar to views expressed by residents of the site counties.

- Our water and crops are more important to the world than depositing nuclear waste. Another site should be chosen because our water and crops should take priority.
- I lived close to a nuclear plant in Pennsylvania and had a lot of problems with it. I was a farmer and it harmed my cattle.
- I'm not sure economic benefits are worth the potential risk involved.... We're talking about people's lives and livelihood...but there is no proof that [the repository] would be safe. It's not real swift to put a nuclear waste repository on top of a major source of drinking water where it has a chance to contaminate the water and crops and hurt the people here.
- [The repository] would be detrimental to the farmland. That's the backbone of the economy around here.
- My father works at Pantex and he said [the repository] could contaminate our water and everything.
- I feel like [the repository] is basically a safe way to handle nuclear waste and that Amarillo is far enough away.
- We need it desperately. Amarillo is dying and we need more people and more jobs.
- My husband is in the construction business. The repository will help business.

- I think I'm still kind of short on all the information. There's a lot of people here that need work and [the repository] could really help the economy. Still I'm not sure if we're getting all of the information necessary on leaking and contamination to the water.

Opposition to Site Characterization

A substantial minority (38 percent) of Amarillo residents said they had not heard about site characterization before they were contacted for the surveys. A majority of those who had heard about characterization opposed it. Asked whether they would allow characterization, 45 percent said "definitely no" and 14 percent said "probably no." Asked whether characterization would be good for Amarillo, 38 percent said "definitely no" and 17 percent said "probably no;" 28 percent said characterization "definitely" or "probably" would be good for Amarillo.

As in the Deaf Smith-Oldham area, some Amarillo residents oppose site characterization because they oppose the repository itself. They feel characterization of an unsuitable site is a waste of money. Others support characterization because they believe it will mean elimination of the Deaf Smith site from further consideration.

- [Characterization] is just one step closer to the dump. How could I be for site characterization if I'm against the repository?

- We don't want [the repository] here, so we don't want them looking around.

- I think it's a waste of money to do a site characterization study of an area that is not a good site.

- If the site characterization were done fairly, Deaf Smith County would be eliminated because of water supply, agriculture and uncertain safety due to lack of experience.

Many Amarillo residents expressed concern about the safety of characterization studies and their effect on agriculture. Some believe any economic benefits will be small or short-lived.

- I think it is a dangerous experiment.

- Geologically speaking, this area is too dependent on its non-renewable resources to threaten them with the possibility of building the repository here.

- We're a distance away and I don't see how [the repository] will help the economy of Amarillo. It won't make much impact on Amarillo because site characterization is so temporary.

Many residents do expect economic benefits.

- I don't really see that [the repository] can harm. Government will spend moeny which will improve the local economy, even if only a little.

- [The repository] would bring in more people in the midst of a high recession. It would help hotel and restaurant businesses. It would help the economy on a short-term basis.

- [The repository] would employ people and help the economy. The farmers are going broke, and they can't help improve the local economy.

Some expressed distrust of the site-selection process and a sense of unfairness that their area is being considered for the repository.

- Two-thirds of the choices for the sites were politics and not common sense.

- [Site characterization] is a waste of time and money.... The government has already decided they're going to do whatever they want to do.

- Pantex is already enough risk in this area.

- It's just hard for a lot of people in this part of the state...to swallow the idea that Deaf Smith County was even considered....When considering the great agricultural resources of the Panhandle, people simply can't understand cur area being chosen.

Expectations About Social and Economic Effects

A majority of Amarillo residents said a repository in Deaf Smith County would affect them personally, although they expect little change in many basic socioeconomic indicators. Most Amarillo residents expect no change in their personal income, crime rates, the quality of schools and local services, or the number of places to go for entertainment. They do expect adverse effects on agriculture: 73 percent said the value of farmland in their county would decline and 65 percent said agricultural production would fall if a repository is built nearby. Forty-four percent believe the value of their own home would go down, but 54 percent expect an increase in the number of jobs available. Amarillo residents are divided in their expectations for stores and industry.

Expectations About Health and the Environment

Amarillo residents expressed strong concerns about health and environmental effects of the repository. A majority rated each of six possible hazards as "very likely" or "somewhat likely" on a four-point response scale ranging from "very likely" to "very unlikely." Nearly half rated water contamination and health problems for repository workers as "very likely" and another quarter of Amarillo residents rated these risks as "somewhat likely." In addition, 72 percent rated transportation accidents as "very likely" or "somewhat likely."

Knowledge About the Nuclear Waste Program

In general, Amarillo residents are less well-informed about the nuclear waste program than residents closer to the proposed site. However, a majority of of Amarilloans answered most true-false questions correctly. Fewer than a fourth of them were aware that DOE plans to freeze the Ogallala and drill outside the nine-square-mile site during characterization or that not all of the salt excavated during repository construction would be filled back in. In addition, 58 percent of Amarillo residents incorrectly said that the city is more than 50 miles from the proposed site, and 18 percent said they didn't know whether the site is more than 50 miles away.

As for Deaf Smith-Oldham residents, Amarillo residents' estimates of the number of employees at the repository varied widely, ranging from 20 to 100,000 employees during construction. However, Amarillo residents generally expect more jobs and a higher proportion of local hiring. Sixty-five percent believe 500 or fewer workers will build the repository; 16 percent expect 1500 or more construction workers. On average, Amarillo residents expect half of the construction workers and 45 percent of repository operators to be hired locally from the Texas Panhandle.

RESULTS FOR SWISHER, MOORE AND CROSBY COUNTIES

Opposition to the Repository

Residents of Swisher, Moore and Crosby counties are very strongly opposed to construction of a nuclear waste repository in Deaf Smith County. About three-fourths of them "definitely" would not allow construction of the repository and another 10 percent "probably" would not allow it. About 10 percent believe the repository would be good for their county. More than half said a repository in Deaf Smith would affect their families personally. Comments indicate that residents of these counties believe associated environmental hazards could hurt their area, but economic benefits will not affect them.

Opposition to Site Characterization

Swisher County residents also oppose site characterization. Among those who had heard about characterization, 68 percent "definitely" or "probably" would not allow characterization, while 14 percent said it "definitely" or "probably" would be good for their county. About a third of Swisher residents were not aware that Deaf Smith had been chosen for characterization. Moore and Crosby county residents were not asked about site characterization.

Expectations About Social and Economic Effects

Residents of Swisher, Moore and Crosby counties generally expect little social or economic change from a repository in Deaf Smith County. However, a majority expect negative effects on property values and agriculture. For Swisher County, 52 percent expect the value of their own home to decline if a repository is built in Deaf Smith. Seventy-three percent of Swisher residents and 60 percent of Moore and Crosby residents think farmland values in their county would go down because of a repository. Fifty-seven percent of Swisher residents and 48 percent of Moore and Crosby residents said a repository would mean a decrease in agricultural production in their county.

Expectations for Health and the Environment

More than 60 percent of residents of Swisher, Moore and Crosby counties rated each of six possible hazards at the repository as "very likely" or "somewhat likely." They expressed strongest concern about transportation accidents, water contamination, and health problems for repository workers. In addition, 68 percent of Swisher residents and 64 percent of Moore and Crosby residents believe it is "very likely" or "somewhat likely" that the repository would cause health problems extending to residents of their own county.

Response percentages for questions reviewed in this preliminary report and for additional questions included in the full interviews are shown in the appendix.

SUMMARY OF RESULTS

Residents of the Texas Panhandle overwhelmingly oppose construction of a high-level nuclear waste repository in Deaf Smith County. Opposition to the repository extends beyond the immediate site area to Amarillo and rural counties farther away from the proposed Deaf Smith site. Panhandle residents also oppose site characterization studies in Texas, but many lack basic information about characterization plans.

Concerns about harm to the environment and the agricultural economy of the area are primary factors in opposition to the repository and to site characterization. Residents of all of the study areas believe that the repository is likely to cause health problems in their own counties. They also expect the repository to bring new jobs to the area, but estimates of the size of the workforce vary widely. Amarillo residents are more optimistic about local employment than are Deaf Smith-Oldham and Swisher residents.

Although many Panhandle residents are well-informed about factual aspects of the nuclear waste program, a substantial minority lacks basic information about DOE plans. Three-fourths of Amarillo residents are not aware that the proposed site is less than 50 miles away.

Public hearings are one opportunity for local residents to learn about and participate in the repository site-selection process, and a third of the residents of the Deaf Smith-Oldham and Swisher areas have attended a hearing in the past two years. However, many distrust the DOE siting program. A majority of Amarillo residents said the siting process is not fair.

The Texas surveys provide an additional opportunity for local residents to speak out about plans for high-level nuclear wastes. Results document that both urban and rural residents of the Panhandle are united in opposing construction of a nuclear waste repository in Texas.

APPENDIX: SURVEY QUESTIONS AND RESPONSES

Deaf Smith County, in the Texas Panhandle, is being considered by the U.S. Department of Energy as one of three finalists for the first national high-level nuclear waste repository. The State of Texas surveyed residents of the Texas Plains in October 1986 as part of ongoing efforts to document potential socioeconomic effects of a repository in Texas. The wording of survey questions is shown here along with the percent of survey participants who chose each answer.

Percentages are based on 340 interviews for the Deaf Smith-Oldham county area, 609 interviews for Amarillo, 186 interviews for the Swisher County area and 253 interviews for the Moore and Crosby county areas, except where otherwise noted. The margin of error is approximately ± 5 percentage points for the Deaf Smith-Oldham area, 3 to 4 points for Amarillo, and 6 points for the other counties. Although most survey questions were included in interviews in all of the study areas, some questions were asked only of residents in certain counties. Percentages may not sum exactly to 100 because of rounding.

Q. If it were up to you, would you allow construction of a high-level nuclear waste repository in Deaf Smith County?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
DEFINITELY YES	3	6	4	3
PROBABLY YES	11	6	7	7
NOT SURE	6	6	5	6
PROBABLY NO	9	9	10	10
DEFINITELY NO	71	72	74	75

Q. Do you think construction of the nuclear waste repository would be a good thing for your county?[1]

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
DEFINITELY YES	5	10	4	4
PROBABLY YES	14	14	5	8
NOT SURE	6	9	8	8
PROBABLY NO	15	11	13	10
DEFINITELY NO	60	56	69	70

Q. How likely do you think it is that a high-level nuclear waste repository will actually be built in Deaf Smith County?

	Deaf Smith	Amarillo[2]	Swisher	Moore/Crosby
VERY LIKELY	24	16	12	21
SOMEWHAT LIKELY	40	43	35	38
SOMEWHAT UNLIKELY	13	17	18	16
VERY UNLIKELY	12	13	22	16
DON'T KNOW/NO OPINION	10	11	14	10

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[1] Amarillo residents were asked whether the repository would be a good thing "for Amarillo;" Moore and Crosby area residents were asked whether it would be a good thing "for the Texas Plains."

[2] These questions were omitted from some Amarillo interviews to shorten the overall length of the survey. Percentages for these questions are based on 270 interviews in Amarillo. The margin of error is approximately ± 5 points.

Q. If a nuclear waste repository is built in Deaf Smith County, do you think that the repository would affect you or your family personally?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
DEFINITELY YES	44	25	31	26
PROBABLY YES	28	26	22	25
NOT SURE	12	19	19	21
PROBABLY NO	12	23	21	23
DEFINITELY NO	5	7	7	5

The next series of questions asks about what you think will happen in your county during the next 15 years if Deaf Smith is chosen as the site for the nuclear waste repository. I'd like to know whether you think your county would change because of the repository.

Q. If Deaf Smith County is chosen as the repository site, do you think your local tax rates will go up, stay the same, or go down because of the repository?

	Deaf Smith	Amarillo [2]	Swisher
GO UP	52	40	38
STAY THE SAME	27	41	43
GO DOWN	10	7	6
DON'T KNOW	11	12	14

Q. If Deaf Smith County is chosen as the repository site, do you think the number of people in your county will go up, stay the same, or go down because of the repository?

	Amarillo	Swisher	Moore/Crosby
GO UP	33	11	9
STAY THE SAME	33	40	50
GO DOWN	30	43	32
DON'T KNOW	4	6	9

Q. Do you think the value of your home will go up, stay the same, or go down because of the repository?

	Deaf Smith	Amarillo [2]	Swisher
GO UP	33	17	9
STAY THE SAME	16	36	33
GO DOWN	46	44	52
DON'T KNOW	5	4	7

Q. How about your household income? Will that go up, stay the same, or go down because of the repository?

	Deaf Smith	Amarillo	Swisher
GO UP	16	12	3
STAY THE SAME	50	71	61
GO DOWN	29	11	29
DON'T KNOW	4	5	7

Q. The next one is the quality of schools in your county. Will that go up, stay the same, or go down because of the repository?

	Deaf Smith	Amarillo [2]	Swisher
GO UP	16	10	8
STAY THE SAME	43	66	50
GO DOWN	34	18	33
DON'T KNOW	7	5	10

Q. How about the value of land in farms and ranches in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	5	8	3	6
STAY THE SAME	14	15	19	30
GO DOWN	80	73	73	60
DON'T KNOW	2	4	5	4

Q. What about crime rates in your county?

	Deaf Smith	Amarillo[2]	Swisher	Moore/Crosby
GO UP	49	29	30	24
STAY THE SAME	40	60	52	58
GO DOWN	4	3	5	5
DON'T KNOW	7	8	13	14

Q. What about the cost of living in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	65	41	48	37
STAY THE SAME	25	43	40	48
GO DOWN	4	8	5	7
DON'T KNOW	6	8	8	9

Q. How about the number of jobs available in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	58	54	26	18
STAY THE SAME	15	25	38	47
GO DOWN	23	15	31	31
DON'T KNOW	4	6	5	4

Q. What about the quality of local services, like police, fire, and sewage and so on?

	Deaf Smith	Amarillo[2]	Swisher
GO UP	24	14	12
STAY THE SAME	54	71	67
GO DOWN	18	11	15
DON'T KNOW	4	4	5

Q. How about the number of stores and businesses in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	50	32	11	10
STAY THE SAME	23	39	41	54
GO DOWN	26	25	44	32
DON'T KNOW	2	4	3	4

Q. How about the amount of industry in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	24	32	14	12
STAY THE SAME	23	36	35	52
GO DOWN	48	26	45	32
DON'T KNOW	4	7	5	4

Q. How about the amount of agricultural production in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
GO UP	2	2	4	4
STAY THE SAME	18	28	34	43
GO DOWN	78	65	57	48
DON'T KNOW	2	4	6	5

Q. How about the number of places to go for fun or entertainment -- like bowling, restaurants, movies, and so on?

	Deaf Smith	Amarillo[2]	Swisher
GO UP	43	18	8
STAY THE SAME	38	66	58
GO DOWN	14	13	27
DON'T KNOW	4	4	8

These questions are about health and safety. We know that people have different opinions about the safety of a nuclear waste repository. I'm going to ask you for your opinion about it.

Q. How likely do you think it is that there would be accidents involving trucks or trains bringing nuclear wastes to the repository?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	42	34	47	43
SOMEWHAT LIKELY	39	38	33	39
SOMEWHAT UNLIKELY	11	17	11	12
VERY UNLIKELY	7	10	7	4
DON'T KNOW	2	2	2	2

Q. How likely do you think it is that radioactive wastes would escape into the air outside the respository?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	32	25	33	37
SOMEWHAT LIKELY	35	32	31	33
SOMEWHAT UNLIKELY	17	21	17	16
VERY UNLIKELY	13	17	14	9
DON'T KNOW	2	5	5	6

Q. How likely do you think it is that radioactive wastes would escape into the water outside the respository?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	48	46	49	57
SOMEWHAT LIKELY	29	29	30	23
SOMEWHAT UNLIKELY	10	11	6	10
VERY UNLIKELY	10	10	11	5
DON'T KNOW	4	5	4	4

Q. How likely do you think it is that there would be health problems for workers at the repository?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	42	46	48	47
SOMEWHAT LIKELY	30	25	31	32
SOMEWHAT UNLIKELY	16	12	4	10
VERY UNLIKELY	10	11	12	7
DON'T KNOW	3	5	5	5

Q. How likely do you think it is that the repository would lead to health problems for people living in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	38	26	31	27
SOMEWHAT LIKELY	29	33	37	37
SOMEWHAT UNLIKELY	17	20	13	18
VERY UNLIKELY	13	19	17	15
DON'T KNOW	2	3	2	3

Q. How likely do you think it is that the respository would lead to contamination of food grown in your county?

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
VERY LIKELY	45	38	37	39
SOMEWHAT LIKELY	28	29	33	33
SOMEWHAT UNLIKELY	12	12	12	12
VERY UNLIKELY	14	19	15	13
DON'T KNOW	1	2	4	3

Now I'm going to read you some statements about some technical aspects of the nuclear waste repository. Some of the statements are true and some are false.

Q. High level nuclear wastes are radioactive for thousands of years. From what you've heard, would you say that's true, or false, or would you say that you don't know?

	Deaf Smith	Amarillo	Swisher
TRUE (CORRECT)	73	74	68
FALSE	6	9	5
DON'T KNOW	21	17	28

Q. DOE–that is, the U.S. Department of Energy–expects to transport nuclear wastes to the repository through Amarillo.

	Deaf Smith	Amarillo	Swisher	Moore/Crosby
TRUE (CORRECT)	60	59	61	
FALSE	10	14	9	
DON'T KNOW	30	27	30	

Q. Drilling for oil and gas will be allowed on land over the repository.

	Deaf Smith	Amarillo	Swisher
TRUE	5	8	8
FALSE (CORRECT)	61	62	67
DON'T KNOW	34	30	26

Q. Site characterization–that is, studies used to plan for the repository–will involve drilling through the underground water of the Ogallala aquifer.

	Deaf Smith	Amarillo	Swisher
TRUE (CORRECT)	76	57	73
FALSE	6	14	7
DON'T KNOW	18	29	20

Q. The federal government already owns all the land in the Deaf Smith repository site.

	Deaf Smith	Amarillo	Swisher
TRUE	8	10	3
FALSE (CORRECT)	71	59	66
DON'T KNOW	22	31	31

Q. DOE plans to freeze the underground water of the Ogallala aquifer during site characterization studies.

	Deaf Smith	Amarillo	Swisher
TRUE (CORRECT)	25	12	10
FALSE	29	36	33
DON'T KNOW	46	52	57

Q. All of the salt dug out of the repository during construction will be put back into the repository eventually.

	Deaf Smith	Amarillo	Swisher
TRUE	20	23	24
FALSE (CORRECT)	40	30	44
DON'T KNOW	40	47	32

Q. The nuclear repository will not begin operating for at least 10 years.

	Deaf Smith	Amarillo	Swisher
TRUE (CORRECT)	74	55	61
FALSE	10	21	12
DON'T KNOW	16	24	27

Q. The land being considered for the repository is more than 50 miles from Amarillo.

	Amarillo
TRUE	58
FALSE (CORRECT)	24
DON'T KNOW	18

Q. DOE plans to test nuclear wastes underground in Deaf Smith County during site characterization—that is, during the planning studies for the repository.

	Deaf Smith	Amarillo	Swisher
TRUE	28	31	26
FALSE (CORRECT)	32	29	31
DON'T KNOW	40	40	43

Q. All of the drilling for geologic studies during site characterization will be within the nine-square mile repository site.

	Deaf Smith	Amarillo	Swisher
TRUE	60	39	52
FALSE (CORRECT)	12	23	17
DON'T KNOW	28	38	30

Q. There is no evidence that radiation can cause birth defects.

	Deaf Smith	Amarillo	Swisher
TRUE	5	4	8
FALSE (CORRECT)	80	87	73
DON'T KNOW	15	8	19

Q. The city of Amarillo uses drinking water from the Ogallala underground aquifer.

	Amarillo
TRUE (CORRECT)	54
FALSE	27
DON'T KNOW	19

Q. The government has already done some drilling in Deaf Smith County as part of the site selection process for the repository.

	Deaf Smith	Amarillo	Swisher
TRUE (CORRECT)	69	59	71
FALSE	12	12	3
DON'T KNOW	20	29	26

Q. And last, the Pantex plant is where U.S. nuclear weapons are assembled.

	Amarillo
TRUE (CORRECT)	90
FALSE	4
DON'T KNOW	5

Now I'd like to ask about jobs at the repository.

Q. If Deaf Smith is actually chosen as the site for the repository, how likely do you think it is that you or someone in your household will get a job at the repository--either during construction or during operation of the repository?

	Deaf Smith	Amarillo	Swisher
VERY LIKELY	5	3	1
SOMEWHAT LIKELY	10	6	5
SOMEWHAT UNLIKELY	7	7	5
VERY UNLIKELY	78	84	87

Now, I'd like to know whether you agree or disagree with some statements that I'm going to read to you.

Q. The process for choosing a site for the high-level nuclear waste repository is fair.

	Amarillo
STRONGLY AGREE	9
SOMEWHAT AGREE	16
NEUTRAL	13
SOMEWHAT DISAGREE	18
STRONGLY DISAGREE	45

Q. People won't want to buy food or agricultural products from Deaf Smith County if the repository is built there.

	Amarillo
STRONGLY AGREE	48
SOMEWHAT AGREE	26
NEUTRAL	5
SOMEWHAT DISAGREE	13
STRONGLY DISAGREE	8

Q. I trust the federal government to build a nuclear waste repository that is safe.

	Amarillo
STRONGLY AGREE	19
SOMEWHAT AGREE	22
NEUTRAL	8
SOMEWHAT DISAGREE	16
STRONGLY DISAGREE	35

Q. Agriculture-related businesses are very important to the Amarillo economy.

	Amarillo
STRONGLY AGREE	86
SOMEWHAT AGREE	9
NEUTRAL	2
SOMEWHAT DISAGREE	2
STRONGLY DISAGREE	1

Now I'd like to know whether you agree or disagree with some statements about the possibility that Deaf Smith County might be chosen for a nuclear waste repository.

Q. When I think about the possibility that Deaf Smith County might be chosen for a nuclear waste repository, I feel that this is a situation that I can change or do something about.

	Deaf Smith
STRONGLY AGREE	11
SOMEWHAT AGREE	27
NEUTRAL	9
SOMEWHAT DISAGREE	21
STRONGLY DISAGREE	32

Q. When I think about the possibility that Deaf Smith County might be chosen for a nuclear waste repository, I feel that I have to hold myself back from doing what I want to do.

	Deaf Smith
STRONGLY AGREE	17
SOMEWHAT AGREE	18
NEUTRAL	14
SOMEWHAT DISAGREE	18
STRONGLY DISAGREE	32

Q. When I think about the possibility that Deaf Smith County might be chosen for a nuclear waste repository, I feel that this is a situation that must be accepted or gotten used to.

	Deaf Smith
STRONGLY AGREE	15
SOMEWHAT AGREE	25
NEUTRAL	6
SOMEWHAT DISAGREE	14
STRONGLY DISAGREE	40

Next, I have a list of things that some people may have done because of the repository. You might have done some or all of these things, or you might not have done any of them.

Q. In the past two years have you read any reports or pamphlets or other information from a government agency telling about the repository?

	Deaf Smith	Swisher
YES	57	59

Q. How about attending a government sponsored meeting or public hearing about the repository? Have you done that in the past two years?

	Deaf Smith	Swisher
YES	34	34

Q. Did you testify or speak up at a meeting or hearing about the repository?

	Deaf Smith	Swisher
YES	6	6

Q. And in the past two years have you contacted a public official by letter, telephone or in person about the repository?

	Deaf Smith	Swisher
YES	24	27

Q. How about going to a meeting of a community group about the repository--a group such as POWER, STAND, or the Nuclear Waste Task Force? Have you done that in the past two years?

	Deaf Smith	Swisher
YES	31	33

Q. In the past two years, have you changed financial plans for your family or your farm, ranch or business because of the repository?

	Deaf Smith	Swisher
YES	11	6

Q. Has anything happened in the last two years that changed the way you feel about the nuclear waste repository?

	Deaf Smith	Swisher	Moore/Crosby
YES	12	11	21

The next few questions are about site characterization.

Q. I was wondering whether you had already heard about site characterization before we got in touch with you about this survey. Had you heard about site characterization before or not?

	Deaf Smith	Amarillo	Swisher
YES	76	62	62

Q. If it were up to you, would you allow site characterization studies in Deaf Smith County?[3]

	Deaf Smith	Amarillo [2]	Swisher
DEFINITELY YES	17	19	14
PROBABLY YES	11	17	14
NOT SURE	6	6	4
PROBABLY NO	12	14	12
DEFINITELY NO	52	45	56

Q Do you think site characterization in Deaf Smith would be a good thing for your county?[4]

	Deaf Smith	Amarillo	Swisher
DEFINITELY YES	15	14	7
PROBABLY YES	12	14	7
NOT SURE	11	16	17
PROBABLY NO	15	17	15
DEFINITELY NO	47	38	54

Now I have a few questions about the Pantex plant.

Q. Had you heard about the Pantex plant before I called?

	Amarillo
YES	98

Q. Has anyone in your household ever worked at Pantex?

	Amarillo
YES	18

Q. If it were up to you, would you allow Pantex to continue operating in the Amarillo area?

	Amarillo
DEFINITELY YES	62
PROBABLY YES	18
NOT SURE	5
PROBABLY NO	5
DEFINITELY NO	10

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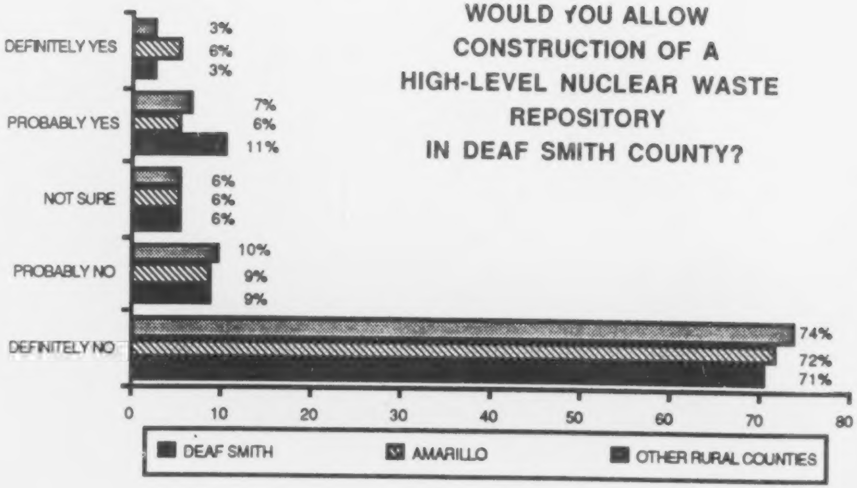
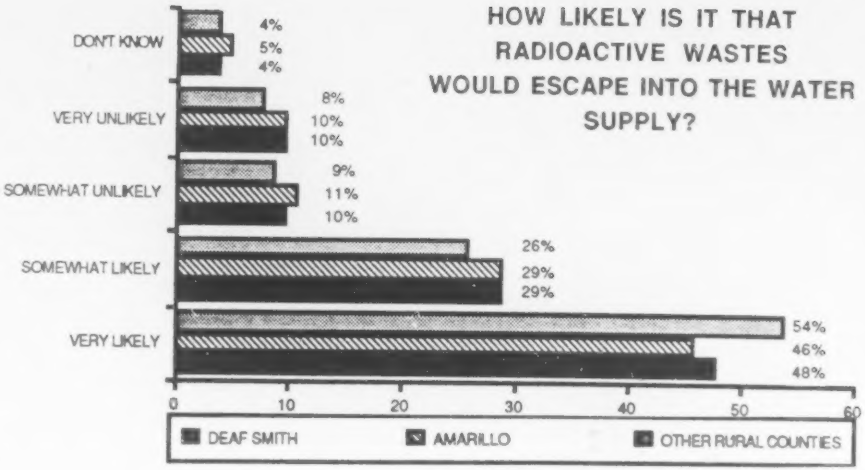
[3] This question and the following were asked only of residents who had heard of site characterization. Percentages are based on 265 interviews in the Deaf Smith-Oldham county area, 219 interviews in Amarillo, and 118 interviews in the Swisher County area.

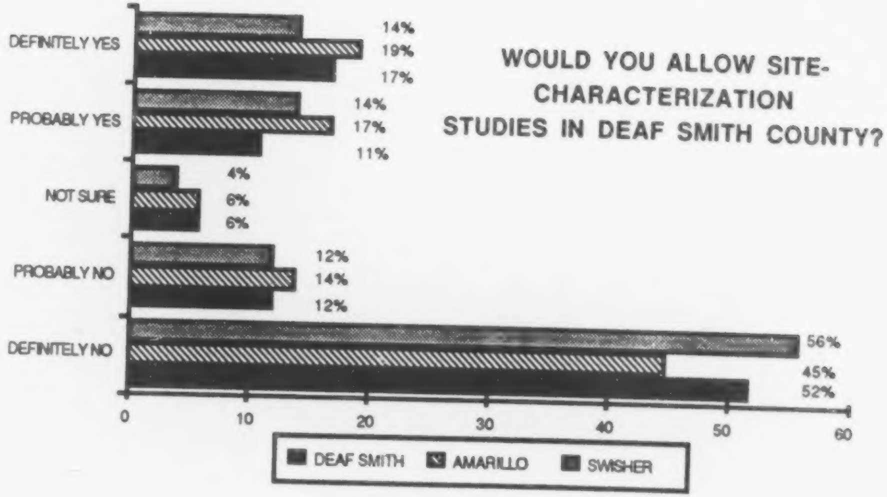
[4] Amarillo residents were asked whether characterization would be a good thing "for Amarillo." Percentages are based on 263 interviews in the Deaf Smith-Oldham county area, 388 interviews in Amarillo, and 117 interviews in the Swisher County area.



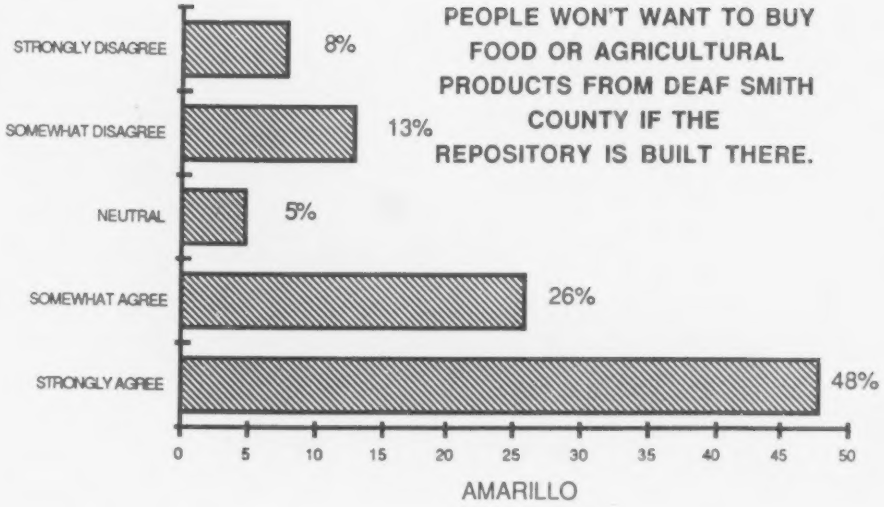
WOULD YOU ALLOW CONSTRUCTION OF A HIGH-LEVEL NUCLEAR WASTE REPOSITORY IN DEAF SMITH COUNTY?



HOW LIKELY IS IT THAT RADIOACTIVE WASTES WOULD ESCAPE INTO THE WATER SUPPLY?



WOULD YOU ALLOW SITE-CHARACTERIZATION STUDIES IN DEAF SMITH COUNTY?



PEOPLE WON'T WANT TO BUY FOOD OR AGRICULTURAL PRODUCTS FROM DEAF SMITH COUNTY IF THE REPOSITORY IS BUILT THERE.

STATEMENT OF

EDISON ELECTRIC INSTITUTE

AMERICAN NUCLEAR ENERGY COUNCIL

UTILITY NUCLEAR WASTE MANAGEMENT GROUP

ELECTRIC UTILITY COMPANIES' NUCLEAR TRANSPORTATION GROUP

ATOMIC INDUSTRIAL FORUM

ON

S.839

NUCLEAR WASTE POLICY ACT AMENDMENTS ACT OF 1987

SUBMITTED TO THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

FOR THE HEARING RECORD OF

APRIL 28 AND 29, 1987

The Edison Electric Institute, American Nuclear Energy Council, Utility Nuclear Waste Management Group, Electric Utility Companies' Nuclear Transportation Group, and the Atomic Industrial Forum are pleased to have the opportunity to provide their collective views on S.839, Nuclear Waste Policy Act Amendments Act of 1987. These groups, described in an Attachement, represent (in some instances, among others) the electric utilities with nuclear energy programs who are the sole financial supporters of the DOE activities under the Nuclear Waste Policy Act of 1982 (NWPA). Electric companies are responsible to the electricity consumer for the appropriate use of these funds. In addition to paying into the Nuclear Waste Fund, as required by the NWPA, electric utilities are, through participation in these groups, following the NWPA implementation, as well as providing assistance to the Federal Government, where appropriate.

The industry believes that some form of incentives are required to help overcome the perceived disadvantage States, Indian Tribes and local communities believe attach to hosting high-level radioactive waste disposal system facilities. Therefore, we urge Congress to work with the Administration and the Department of Energy to develop such a program. The recent bill introduced by Senators Johnston and McClure, S. 839, contains several concepts necessary for a successful incentives program. However, significant questions need to be addressed and resolved before S. 839 can provide a satisfactory incentives program. Further it is suggested that the incentives for the MRS contained in S. 839 be incorporated in the MRS authorizing legislation. The MRS authorization should include specific and complete direction for siting the MRS facility. The DOE proposed Clinch River site in the Roane County portion of Oak Ridge, Tennessee should be designated as the authorized site. However, provision should also be made to allow a State or Indian Tribe to offer an alternate site. NWPA implementation would be aided if MRS authorization and MRS incentives program development are not tied to developing incentives for the repository program. Furthermore, we request that Congress fully fund DOE's Nuclear Waste Fund budget request, including repository and MRS efforts, and not restrict any site-specific activities in FY 1988, including drilling exploratory shafts. The overall NWPA program should not be delayed while additional incentives are being developed.

WASTE PROGRAM INCENTIVES

The nation requires development of a technically sound and publicly acceptable high-level radioactive waste disposal program for commercial use of nuclear energy to continue. In this regard, it is the industry's overriding goal to achieve efficient, effective and fair implementation of the NWPA leading to the successful operation of a national high-level radioactive waste disposal system as close to the NWPA schedule as possible.

An incentives program would significantly aide NWPA implementation.

Need for Broader Incentives

The industry submitted a statement for the record of this Committee's hearings on January 29, February 4 and 5, 1987. We indicated that Congress and the Administration should consider a broader scope of economic incentives for the States, Indian Tribes and local communities that will host high-level radioactive waste disposal system facilities. In the NWPA, Congress authorized incentive mechanisms that are tied to costs associated with participation in NWPA implementation (participation grants), correction of potential negative impacts (mitigation grants) or payment for loss of potential tax revenues (payments-equal-to-taxes). In light of recent history, it is proper for Congress and the Administration to develop a broader scope of incentives needed to compensate the States, Indian Tribes and communities for hosting these facilities.

On April 29, 1987, Mr. William W. Berry, Chairman of Virginia Power, testified on behalf of the electric utility and nuclear industries regarding the MRS. Mr. Berry stated the industries' unequivocal support for the MRS in the best interests of NWPA implementation. Mr. Berry also pointed to the substantial benefits DOE proposes to provide to the MRS host State and local community. Mr. Berry stated that we also favor including broader incentives for the MRS facility, as long as it can be accomplished without delaying MRS authorization.

Safety First

In any incentives program, it must be made clear that there is no substitute for technically sound repository and MRS programs and that safety is the most important element in all program activities. States, Indian Tribes, local communities and the general public must be assured that the provision of incentives is not intended, in any way, as compensation for deficiencies (real or perceived) in the NWPA program. DOE must develop the repository(ies) and MRS in a technically sound manner.

S. 839, Nuclear Waste Policy Act Amendments Act of 1987

The NWPA was developed by Congress in response to the national need for high-level radioactive waste disposal and Congress must also develop any additional elements, such as an incentives program, that may be needed to help implement the NWPA. Only in Congress can States directly negotiate with each other over acceptance of high-level radioactive waste facilities.

Senators Johnston and McClure are to be complimented for their effort in offering S.839 as a means to make progress towards reasonable implementation of the NWPA. This action is in response to the apparent need for additional incentives for host States, Indian Tribes and communities to assuage the perceived competitive disadvantage of successful NWPA implementation.

S. 839 contains several concepts that appear appropriate and reasonable. It is appropriate that Congress indicate to States, Indian Tribes, and local communities that may host high-level radioactive waste disposal system facilities that significant incentives are available for accepting these facilities. However, it is entirely reasonable that Congress require that the recipients of these significant incentives cooperate with DOE in developing these facilities.

Prior to enacting S. 839, however, a number of important questions need to be addressed and resolved to provide a satisfactory incentives program:

Need for legislation: Can the goals of S. 839 be accomplished without having to enact new legislation? Is it possible to achieve these goals by allowing the States, Indian Tribes and local communities to use creatively the NWPA payments-equal-to-taxes provision?

Appropriations of payments: Once an incentives agreement is signed, would payments be automatic or would they be subject to the Federal appropriations process as are all DOE's expenditures from the Nuclear Waste Fund?

Size of payments: The payments called for in S. 839 are impressive. Are there alternative sizes of payments that would be more appropriate given the already high cost of the NWPA program?

Timing of payments: Are there alternative payment schedules that might be more appropriate and engender more cooperation from the State, Indian Tribe, or local community? For example, would single payments at the start and end of site characterization help NWPA implementation more than payments every year, without restriction, during site characterization?

Status of the second repository program: Does the waiver of the second repository requirement, if incentive agreements for the first repository and MRS are in place, resolve the current NWPA implementation impasse in Congress over the second repository?

First repository sites not involved in the incentives program: Is it wise to curtail completely site characterization work at the two sites not covered by the incentives agreement? Should a low level of effort or a limited site characterization program be conducted to retain the other two sites as backups? If so, should this entail limited incentive payments to the other two states?

Regulatory changes: What changes should be made to 10 CFR Parts 60, 72 and 960 to conform to the siting process in Title IV?

Review panel: How much authority should be granted to the review panel? Should the review panel contain greater representation of those providing the funds for the facilities (electric utilities and consumers)?

State and Indian Tribe termination of the incentive agreement: Once an incentives agreement is signed, should the barriers to termination by the recipients of the incentives payments be higher to guarantee cooperation over the long run?

Interaction Titles I & II and Title IV: What is the interaction between the existing siting requirements and the proposed siting requirements, especially in the area of NEPA compliance and judicial review?

Money is Not Enough

Our observation of the NWPA implementation has lead to the belief that monetary incentives alone may not be enough for a State, an Indian Tribe, and/or a local community to be a willing partner with DOE for one of these facilities. States, Indian Tribes and local communities appear to want a greater, demonstrable role for input to the NWPA program and some degree of control over NWPA implementation activities. The experience of the City of Oak Ridge and Roane County, Tennessee in developing a willingness to host the MRS suggests that an element of local control over the facility's design, construction and operation is needed if a community is to accept such a facility.

The review panel contemplated by S.839 appears to be patterned along the lines of that suggested by the Oak Ridge citizens task force. A careful review of the panel concept by all interested parties is needed to determine if it will meet the need for the appropriate level of local control.

Do not Delay Program

Most importantly, progress in the implementation of the NWPA has been fraught with many challenges and an incentives program should not be permitted to provide an additional opportunity for opponents to delay further implementation. While Congress and all effected parties develop a high-level radioactive waste disposal incentives program, DOE should be given full funding and authority to proceed with NWPA implementation, including drilling of the exploratory shafts at the three sites selected for the first repository. Additionally, DOE should be funded adequately to proceed with the MRS. With history as a guide, it is anticipated that the development in Congress of a reasonable incentives program will take considerable time. The NWPA implementation should not be delayed while incentives are developed.

Incorporate MRS Incentives in MRS Authorizing Legislation

To help move the process along, as recommended in Mr. Berry's April 29 testimony, the incentives for the MRS, as contained in S. 839, should be incorporated in the MRS authorizing legislation, provided this would not delay MRS authorization. The MRS authorization should include specific and complete direction for siting the MRS facility. The DOE proposed site in the Roane County portion of Oak Ridge, Tennessee should be designated as the authorized site. However, provision should also be made for a State or Indian Tribe to come forward within, say, ninety days, to offer an alternate site. If DOE determines, within one year of the date of the offer, that the alternate site is preferred over the Clinch River site, then the alternate site is the authorized site. However, if such a determination is not made, the Clinch River site remains authorized.

This would free the authorization of the MRS and development of the MRS incentives program from the development of incentives for the repository program. This would help get the NWPA implementation going again and provide a start for the incentives program, which would serve as a constructive example for the repository program.

HIGH-LEVEL RADIOACTIVE WASTE DISPOSAL

The industry is extremely concerned about the current state of affairs surrounding NWPA implementation. Electric utilities with nuclear energy programs have collected from electricity consumers and paid $ 2.9 billion into the Nuclear Waste Fund. Now DOE faces significant opposition to the continuation of NWPA implementation from the States, and affected Indian Tribes, that have sites selected for characterization for the first repository.

Congressional Actions Desired

For DOE to take the necessary steps to implement the NWPA during FY 1988, we continue to ask Congress to appropriate sufficient funds from the Nuclear Waste Fund, monies provided by electric utilities and their consumers, to proceed expeditiously with site characterization (including drilling exploratory shafts), and to authorize and fund the Monitored Retrievable Storage (MRS) facility. Also, we urge Congress to provide equitable payments to the Nuclear Waste Fund for defense waste disposal. In addition, as indicated above, we continue to support the need for broader incentives for the States, Indian Tribes and local communities that will host high-level radioactive waste disposal facilities.

Draft Mission Plan Amendment

The January 28, 1987 Draft Mission Plan Amendment (DMPA) lays out a new program strategy that shifts the operational date of the first repository from 1998 to 2003, that indicates DOE will live up to its contractual obligation with electric utilities to take spent fuel in 1998 by use of the MRS, that reprograms the second repository effort and pledges better cooperation with affected parties. The DMPA also recognizes that additional financial assistance beyond that contemplated by the NWPA may be required to deal with socio-economic burdens not contemplated when the NWPA was passed.

Electric utilities with nuclear energy programs firmly believe that DOE has a statutory and contractual obligation, that DOE has made a commitment, and there is a technical requirement for DOE to begin to remove spent fuel from utility reactor sites on January 31, 1998. The industry is deeply concerned whether or not DOE will be allowed, by opponents to NWPA implementation, to live up to this obligation and is considering what recourse might be available in the event that DOE does not.

Congress passed the NWPA in December 1982 and President Reagan signed it into law on January 7, 1983. Even though most of the statutory schedule dates have not been met, several very important milestones have been reached. Most importantly, the three first repository sites for characterization were named and approved by the President. It is unfortunate that the recent impasse over the recommended second repository reprogramming is threatening the progress achieved to this point on the first repository and MRS. One of the challenges to the present program is the perception by some that a delay in implementing the NWPA is acceptable and even desirable if it results in a better repository system. The program may continue to be paralyzed by the quest for a better solution, even though the direction being pursued is entirely adequate for the safe disposal of nuclear waste.

CONCLUSION

The NWPA was a product of Congress's determination that disposal of high-level radioactive waste is essential in order to preserve this nation's nuclear energy option. It is imperative that concerns regarding NWPA implementation be addressed and resolved and Congress take positive action this year to assure that a national high-level radioactive waste disposal system becomes a reality:

- fund first repository site characterization, including exploratory shaft drilling,
- authorize, fund and not restrict the use of the MRS,

- provide equitable payments into the Nuclear Waste Fund for defense waste disposal, and
- provide broader incentives to States, Indian Tribes and local communities that host high-level radioactive waste disposal system facilities.

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ATTACHEMENT

The Edison Electric Institute (EEI) is the association of investor-owned electric companies. Its members serve approximately 73 percent of ultimate electric customers in the Nation. EEI's membership includes the majority of DOE's nuclear waste services customers.

The American Nuclear Energy Council (ANEC) represents over 100 organizations having an interest in nuclear power, including investor, public and cooperatively-owned utilities, manufacturers, architect-engineers and various firms in the nuclear fuel cycle.

The Utility Nuclear Waste Management Group (UNWMG) is a specific activity that is funded by 45 utilities with nuclear programs, including EEI member companies, public utilities and cooperatively-owned utilities. Its primary purpose is to promote the implementation of the Nuclear Waste Policy Act and to assist in the resolution of spent fuel storage and nuclear waste disposal issues.

The Electric Utility Companies' Nuclear Transportation Group (EUCNTG) represents 33 investor owned and publicly owned utilities. One of EUCNTG's primary objectives is to promote successful implementation of transportation-related provisions of the NWPA.

The Atomic Industrial Forum (AIF) is an association dedicated to the development of the peaceful uses of atomic energy. Its approximately 400 U. S. members include electric utilities, which are funding activities mandated under the NWPA, as well as manufacturers, architect-engineers, constructors and consultants playing important roles in its implementation.

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